

G.I. FORUM

A CURRENT REVIEW OF INVESTIGATIONS IN GASTROENTEROLOGY

The Great Impersonator

The patient with irritable bowel syndrome—the most common G.I. complaint seen by the gastro-



terologist—is observed by virtually every medical practitioner except the pathologist. Though no primary pathologic change has yet been demonstrated, irritable bowel syndrome can be confused with other diseases. It has been referred to as the "great impersonator" because its multiple symptoms can mimic many other disorders—pancreatitis, myocardial infarct, endometriosis and even a surgical abdomen. No matter what complaints the patient has as a result of irritable bowel syndrome, excessive anxiety can be a contributing factor.

Anxiety, ancestors, milk

The role of excessive anxiety and other emotions in producing G.I. distress has been amply documented, but another factor has recently come to light—that of lactose intolerance due to low-level lactase activity.² Milk intolerance is now thought by some investigators to be a contributing factor in the development of certain G.I. symptoms—including some associated with irritable bowel syndrome. Widespread interest in this phenomenon has led to many investigations. The general consensus is that low lactase levels appear to be normal in most adults all over the world, Scandinavians and descendants of northern Europeans being the major exceptions.

One study was conducted among neighboring tribes in Uganda.³ When given lactose, many of those who were vegetable eaters and seldom drank milk developed G.I. symptoms including diarrhea. On the other hand, when people of the dairy-herding tribes were given lactose, they seldom showed these symptoms. Findings from Nigeria were similar.⁴ Lactase deficiency appeared commonly in non-dairy farming groups and less commonly in pastoral tribesmen.

Infants and children up to approximately age three throughout the world seem to have no trouble digesting milk—presumably because of normal lactase activity. Studies in many countries have indicated that malabsorption of lactose is very frequent after early childhood.

The tolerant intestine—A 5000-year-old mutation

But what about the many thousands of people who can drink milk with impunity? It has been suggested that the answer might lie in the history of dairy



farming, thought to have begun about 5000 years ago.⁵ In areas around the Nile Basin, the Sahara and in certain parts of northern Europe, people began to raise cattle and to drink milk beyond the normal weaning age. In general, the descendants of these early herdsmen are today's milk drinkers. It has been postulated that the persistence of high levels of lactase beyond early childhood is a genetic mutation—a response to generations of milk-drinking ancestors.

People who are intolerant of milk would seem to be more normal in terms of humanity at large. In their own countries, eating according to traditional dietary patterns, probably no problems would arise; but many live in the United States. Here, milk drinking is part of the culture and is urged for people of all ages. Often, gastrointestinal symptoms result from following this cultural edict. Perhaps it would be more suitable to recommend fermented forms of milk such as yogurt and cheese. These foods are often a normal part of the non-milk drinker's diet² and apparently do not provoke distressing symptoms.

References: 1. Hellem, E. W. *Am. J. Gastroenterol.*, 43:468, 1965. 2. Bayless, T. M., Paige, D. M., and Perry, G. D.: *Gastroenterology*, 60:605, 1971. 3. Cook, G. C., and Kajubi, S. K.: *Lancet*, 1:725, 1966. 4. Kretschmer, N., et al.: *Lancet*, 2:392, 1971. 5. Kretschmer, N.: *Gastroenterology*, 61:805, 1971.

The Logic of Librax

Milk may not be a factor in your patient's irritable bowel syndrome, but more often than not, excessive anxiety plays a role. In certain gastrointestinal disorders an appropriate approach to therapy, including Librax, can be of particular value.* Anticholinergics alone are unlikely to aid recovery if the patient's undue anxiety is not reduced. Librax combines in a single capsule the well-known antianxiety action of Librium® (chlordiazepoxide HCl) with the antisecretory/antispasmodic action of Quarzan® (clidinium Br) to help restore the colon to more normal function.

Appropriate dual-action therapy

The action of Librium helps relieve excessive anxiety resulting from emotional stress and may thus help reduce any resulting overreaction of the susceptible colon. At the same time, the action of Quarzan, a dependable anticholinergic, helps to lessen excessive motility of the colon and relieve spasm and associated pain.

Up to 8 capsules daily in divided doses

For optimum response, dosage should be adjusted according to each patient's requirements—1 or 2 capsules, 3 or 4 times daily. Librax, along with your counseling, can help in the medical management of your patients with irritable bowel syndrome.

*Labbard, R.: "Psychopharmacotherapy in Gastrointestinal Disease," in Fleischer, A., and Marino, A. (eds.): *Psychotropic Drugs in Internal Medicine*, Amsterdam, Excerpta Medica Foundation, 1970, pp. 109-114.

Before prescribing, please consult complete product information, a summary of which follows:

Indications: Symptomatic relief of hypersecretion, hypermotility and anxiety and tension states associated with organic or functional gastrointestinal disorders; and as adjunctive therapy in the management of peptic ulcer, gastritis, duodenitis, irritable bowel syndrome, spastic colitis, and mild ulcerative colitis.

Contraindications: Patients with glaucoma; prostatic hypertrophy and benign bladder neck obstruction; known hypersensitivity to chlordiazepoxide hydrochloride and/or clidinium bromide.

Warnings: Caution patients about possible combined effects with alcohol and other CNS depressants. As with all CNS-acting drugs, caution patients against hazardous occupations requiring complete mental alertness (e.g., operating machinery, driving). Though physical and psychological dependence have rarely been reported on recommended doses, use caution in administering Librium (chlordiazepoxide hydrochloride) to known addiction-prone individuals or those who might increase dosage; withdrawal symptoms (including convulsions), following discontinuation of the drug and similar to those seen with barbiturates, have been reported. Use of any drug in pregnancy, lactation, or in women of childbearing age requires that its potential benefits be weighed against its possible hazards. As with all anticholinergic drugs, an inhibiting effect on lactation may occur.

Precautions: In elderly and debilitated, limit dosage to smallest effective amount to preclude development of ataxia, oversedation or confusion (not more than two capsules per day initially; increase gradually as needed and tolerated). Though generally not recommended, if combination therapy with other psychotropics seems indicated, carefully consider individual pharmacologic effects, particularly in use of potentiating drugs such as MAO inhibitors and phenothiazines. Observe usual precautions in presence of impaired renal or hepatic function. Paradoxical reactions (e.g., excitement, stimulation and acute rage) have been reported in psychiatric patients. Employ usual precautions in treatment of anxiety states with evidence of impending depression; suicidal tendencies may be present and protective measures necessary. Variable effects on blood coagulation have been reported very rarely in patients receiving the drug and oral anticoagulants; causal relationship has not been established clinically.

Adverse Reactions: No side effects or manifestations not seen with either compound alone have been reported with Librax. When chlordiazepoxide hydrochloride is used alone, drowsiness, ataxia and confusion may occur, especially in the elderly and debilitated. These are reversible in most instances by proper dosage adjustment, but are also occasionally observed at the lower dosage ranges. In a few instances syncope has been reported. Also encountered are isolated instances of skin eruptions, edema, minor menstrual irregularities, nausea and constipation, extrapyramidal symptoms, increased and decreased libido—all infrequent and generally controlled with dosage reduction; changes in EEG patterns (low-voltage fast activity) may appear during and after treatment; blood dyscrasias (including agranulocytosis), jaundice and hepatic dysfunction have been reported occasionally with chlordiazepoxide hydrochloride, making periodic blood counts and liver function tests advisable during protracted therapy. Adverse effects reported with Librax are typical of anticholinergic agents, i.e., dryness of mouth, blurring of vision, urinary hesitancy and constipation. Constipation has occurred most often when Librax therapy is combined with other spasmolytics and/or low residue diets.

Helps relieve anxiety-linked symptoms in irritable bowel syndrome

adjunctive Librax®

Each capsule contains 5 mg chlordiazepoxide HCl and 2.5 mg clidinium Br.

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Medical Tribune

and Medical News

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world news of medicine and its practice—fast, accurate, complete

Wednesday, December 27, 1972
Vol. 13, No. 50

A.M.A. Delegates Vote to Set Up A Committee on Quality Control

Medical Tribune Report

CINCINNATI—After years of saying that only physicians can judge the work of physicians, the American Medical Association has conceded there is a new reality now that the Federal Government says otherwise.

With only a few demurrers, delegates at the Clinical Convention here voted to establish an A.M.A. advisory committee "to assure the proper implementation" of the quality-control measures that became law with the recent Congressional and Presidential approval of the massive H.R. 1 amendments to Social Security.

The law, now known as P.L. 92-603, includes a mandate for the establishment of Professional Standards Review Organizations (PSROs). These are not exactly the "peer review organizations" that the A.M.A. has plumped for. PSROs will in

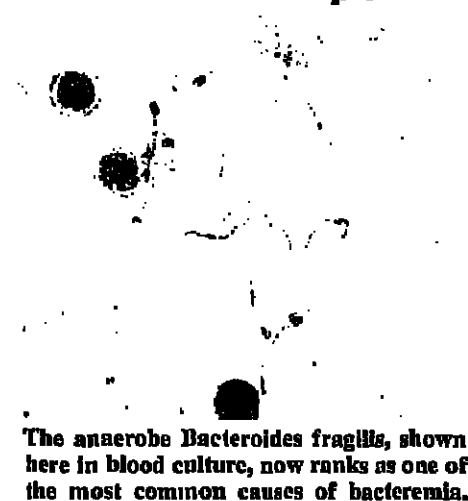
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Medical Tribune's New Masthead

To make MEDICAL TRIBUNE more readable, attractive, and useful for reference, beginning with its next issue, its redesigned front page will carry the issue number in large type in the upper left corner and will be color-coded. We hope you like it.

The Publisher

Bacteremia Culprit



The anaerobe *Bacteroides fragilis*, shown here in blood culture, now ranks as one of the most common causes of bacteremia.

Disease Peril Cited In Nonsporulating Anaerobic Bacilli

Medical Tribune Report

ATLANTA, GA.—New evidence for the serious disease potential of those anaerobic organisms that normally flourish in the human body on a live-and-let-live basis was the focus of attention here as clinicians and microbiologists from seven countries gathered at an International Conference on Anaerobic Bacteria.

The spore-forming anaerobes responsible for botulism, tetanus, and gas gangrene have lost none of their awesome potential, said Dr. Jay S. Goodman, Associate Professor of Medicine at the University of Maryland School of Medicine.

But Dr. Goodman and other participants emphasized that recent improvements in culturing techniques have put the clinical spotlight on non-spore-forming anaerobic bacilli. More than 70 bacilli of

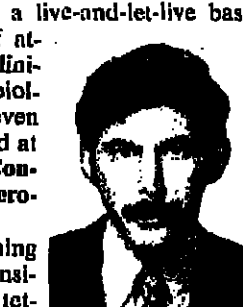
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DR. LARAGH

term study of more than 200 patients had disclosed an association between plasma renin activity and myocardial infarctions and strokes (MEDICAL TRIBUNE, January 12).

The investigator, who is Professor of Clinical Medicine at Columbia, told an International Symposium on the Management of Hypertension that further work by himself and his collaborators, as well as



DR. GOODMAN

Continued on page 22

Prematurity Handicaps: Dramatic Drop Noted

Medical Tribune World Service

MELBOURNE, AUSTRALIA—Recent studies carried out on 98 premature babies in London have shown a dramatic drop in the prematurity handicap rate. New techniques, largely directed at respiratory problems and temperature control, have reduced the handicap rate to 10 per cent, a workshop on perinatal physiology at Queen Victoria Hospital here was told by Dr. L. B. Strang.

"While 10 per cent is an improvement on figures in the literature, which has shown that up to 70 per cent of premature babies suffer a form of handicap, it is still a great deal too many handicapped infants," said Dr. Strang, of University College Hospital, London.

He believes that the practice of not feeding premature babies for the first two or three days after birth is incorrect and in fact leads to starvation, and he advocates frequent early feeding by either the intragastric or the intravenous route.

Panelists at Round Table Focus on Metabolism Role In Ischemic Heart Illness

This article continues a round-table discussion held at the WHO-MEDICAL TRIBUNE symposium on ischemic heart disease in Madrid. The first part of the report took up risk factors and touched on preventive factors.

The international experts who took part in the event were Dr. M. F. Oliver, director, Heart Disease Prevention Clinic, Royal Infirmary of Edinburgh; Dr. J.-L. Beaumont, of the Faculté de Médecine de Créteil and one of France's leading researchers on atherosclerosis; Dr. Zdenek Feljar, chief, Cardiovascular Section, World Health Organization; Prof. A. E. Renold, of the Institute of Clinical Biochemistry, Geneva, Switzerland; Dr. E. Nikkila, Department of Medicine, Helsinki University; and Dr. V. I. Janishevskiy, rector, Medical Institute of Kaunas, Lithuanian Soviet Socialist Republic.

M.T.: The subject of the meeting here in

Continued on page 26

Utah Center Helps Diabetics Cope With Disease



Physicians from the University of Utah Medical Center, operating the Regional Diabetes Center at Salt Lake City's Holy Cross Hospital, help local diabetics overcome the difficulties caused by their disease. Patients attend classes like the one above, in which staff physician Dr. Dana Clarke explains proper diabetes maintenance. Ten to 12 per week are in five-day plan.



The center is a live-in environment where diabetics of all ages learn to cope with their problems with a minimum of supervision. During a class break, young patient gets encouragement from fellow diabetic.



Diet instruction is offered in both classroom and real-life situations. Classes dine out at restaurants and are able to find suitable food on most menus. During the course of an excursion to a grocery store, dietitian Kathy Oakeson, right, explains caloric and sugar content to a group of patients.

New Immunologic Approach Found Enhancing Nephrology

Medical Tribune World Service

MEXICO CITY—New methods of blocking the immune response have opened up exciting possibilities in nephrology, according to Dr. John P. Merrill, Professor of Medicine at Harvard University.

"In the past," he told the fifth International Congress of Nephrology, "our efforts have been directed at suppressing the total immune response and the prevention of antibody formation. We have since learned that there are some kinds of antibodies that will prevent the toxic immune response, and our concentration is now focused on producing such antibodies."

This has already been accomplished in the rat, he said, and good evidence exists that such antibodies occur in human beings to prevent the rejection of a transplanted kidney. He indicated that these "blocking" or "enhancing" antibodies can be prepared by various methods and that their purification for human use is under study.

Dr. Merrill described experimental studies being carried out at Harvard by Dr. Terry Strom in which rats sensitized by skin graft developed sensitized cells against the donor rat. Mixing the cells of both in vitro caused the recipient cells to kill the donor cells. It was then found that the addition of atropine or theophylline to the sensitized cells reduced their lethal potential by 50 per cent or more.

"Of course, the beauty of approaches such as this," Dr. Merrill commented, "lies in the fact that they are directed against the immune response mounted specifically

against the donor antigen, or renal tissue, and unlike present regimens, do not suppress immunity to viruses, bacteria, and fungi.

"It is intriguing and exciting to think what such approaches may hold for the future of nephrology. With regard to the effects of atropine and theophylline, one might even imagine that the future treatment of glomerulonephritis might consist of 10 drops of belladonna in a cup of tea, taken b.i.d."

Genetic Aberrations Considered Contributor Toward Infertility

Medical Tribune World Service

ATHENS—There is much evidence that genetic aberrations may contribute towards infertility, a British researcher told the third European Congress on Sterility.

Dr. M. A. Ferguson-Smith, of the University of Glasgow, Scotland, pointed out that all types of genetically determined defects have been found in association with human infertility. However, in patients whose sole complaint is infertility it is seldom possible to demonstrate single gene defects and this seems to be due largely to practical difficulties in investigating families. Accordingly, much more information is available for chromosome aberrations which lead to infertility as these are more readily investigated.

Studies Illustrate Causes

Recent studies of meiotic and mitotic chromosomes in infertile males, he says, suggest that about 10 per cent of severe male subfertility is due to Klinefelter's syndrome, 3 per cent to autosomal aberrations including XO/XY mosaicism, 2 per cent to defective pairing of the sex chromosomes in meiosis, and 1 per cent to defects in chiasma formation.

This, he points out, gives an approximate estimate of about 19 per cent of severe male subfertility due to chromosome aberrations. The three main pathologic defects of the testis associated with chromosome aberrations are Klinefelter's syndrome, absence of germinal cells, and maturation arrest of spermatogenesis.

Number of Cases of VD in Japan Held Many Times That Recorded

Medical Tribune World Service

TOKYO—There are four or five times more people suffering from venereal disease in Japan than the number of cases recorded, the Public Health Bureau estimated on the basis of a survey.

Forty-six per cent of the VD patients found in the survey were under 30 years old, and most were salaried working men. Many said that they had contracted their disease from cabaret hostesses or girls employed at Turkish baths.

Smallpox Victim Queried



Investigating the outbreak of smallpox in the Ethiopian province of Sodamo, a member of a health surveillance team questions a smallpox victim and traces his contacts in an effort to pinpoint the source of infection with the disease.

Chronic Gastritis Found In Children at Early Age May Be Hard to Diagnose

Medical Tribune World Service

PRAGUE—Chronic gastritis is sometimes found in children at an early age, and the conventional method of diagnosis by analysis of biopsied material from the gastric mucosa is trying in such patients. Dr. M. Sedláčková, of Charles University here, consequently undertook to discover whether diagnostic use could be made of the fact that antibodies against the parietal cells of the gastric glands have been found in adult patients with disorders of the gastrointestinal tract.

Standard direct immunofluorescence was first employed to ascertain whether these antibodies also occur in children, he told the 14th Czechoslovak Congress of Gastroenterology. For the detection of antibodies against parietal cells in 27 girls and 23 boys in whom gastritis was suspected, gastric mucosa from normal males with blood group O was used as antigen. The presence of antibodies was shown in three boys and four girls, the youngest a girl of five and the oldest a girl of 19.

28 Children Were Studied

To test the correlation between the presence of antibodies and histologic biopsy findings, investigations were conducted in 26 children. Eleven had normal histologic findings, while 15 had signs of gastritis in the initial stages.

In the first group no antibodies were found. In five children in the second group, antibodies were found by immunofluorescence; in 10 the results were negative.

"It may be supposed," the investigator commented, "that antibodies had not yet developed in these in view of the brevity of the pathologic process in the gastric mucosa."

"The presence of antibodies can therefore be an indication of a more advanced stage of change, and positive findings should serve as a warning that we can also expect histologic changes in the mucosa." Coauthors were Drs. J. Blazek and B. Bednář.

Four Cases of Sarcoidosis Tied To Herpes Zoster Seen in Japan

Medical Tribune World Service

TOKYO—Four cases of sarcoidosis associated with herpes zoster were reported at the sixth International Conference on Sarcoidosis here. All four, in a group of 82 sarcoidosis cases, showed intrathoracic lesions and three also showed ocular lesions.

Two of the four patients suffered herpes zoster while on steroid therapy, said Dr. Riichiro Mikami, of the Tokyo University School of Medicine, and Dr. Osamu Hongo, of the Komagome Hospital, Tokyo.

The duration of herpes zoster was from seven to 21 days. It was longer in the patients on steroid therapy, and the accompanying symptoms were more pronounced.

Decrease in Glucose Tolerance A 'Crucial' Area of Cardiology

Medical Tribune World Service

STOCKHOLM—Decrease in glucose tolerance could become an area of crucial interest within the framework of preventive cardiology, Prof. Rolf Luft, of the Karolinska Institute, suggested here.

Dr. Luft, who was speaking at the Skandia International Symposium, pointed out that it has been a matter of common knowledge that conditions due to arteriosclerosis, including atherosclerosis, occur earlier and are more extensive in diabetics than in nondiabetics. Nor is there any doubt, he said, that there is an overrepresentation of diabetics among subjects with myocardial infarction. Furthermore, the long-term prognosis of diabetic survivors of myocardial infarction is less favorable than that of nondiabetics, he commented.

Seeks Correlation of Phases

All these facts pertain to manifest diabetes, Dr. Luft said, and the obvious question is whether a similar correlation can be found between the earlier phases of the diabetic syndrome—prediabetes and latent diabetes—and arteriosclerosis.

He cited data that he described as "so consistent that one could accept as a fact that the oral glucose tolerance is decreased in a considerable number of subjects with arteriosclerosis."

"Accepting the fact that latent diabetes is common in arteriosclerotic vascular disease," Dr. Luft continued, "we may raise the question whether this decrease in glucose tolerance is a manifestation of genetic diabetes mellitus, or if it is a secondary phenomenon to the vascular and metabolic changes that accompany arteriosclerosis."

"This question is a crucial one within the frame of preventive cardiology."

Project Collates Care of Spinal Cord Injuries



Annette Ernst, O.R.T., assists paraplegic patient at the Towers Hospital, Charlottesville, Va., left, another participating institution. Above, patient is examined by Dr. Oscar Alzcorbe, physiatrist with the project, at Woodrow Wilson. The University of Virginia School of Medicine is also a member of the system. The project will provide transportation, diagnosis, treatment, educational instruction and vocational training, residential care and health services, as well as training for paramedical personnel.

Miners Seen More Imperiled By Smoking Than by Coal Dust

Medical Tribune Report

DENVER—Habitual cigarette smoking plays a greater role than exposure to coal dust in causing chronic bronchitis among bituminous coal miners, a U.S. Public Health Service team told the annual meeting here of the American College of Chest Physicians.

Detailing the findings in a continuing study of the relationship of smoking, age, and coal dust exposure among 8,555 active miners, the team reported that smokers in the study population had a "consistently higher prevalence of bronchitis than either nonsmokers or former smokers of the same age, years of underground experience, and particular mine duties."

51% Had Bronchitis

"Fifty-one per cent of the smoking miners had bronchitis, while the corresponding figures for ex-smokers and nonsmokers were 31 per cent and 25 per cent, respectively," said Dr. John A. Kibelstis, Assistant Chief, Medical Research Branch of the USPHS Appalachian Laboratory.

Airway obstruction was assessed by comparing the measured FEV₁/FVC with mean values of the European Iron and Steel Community (EISC). Dr. Kibelstis said, FEV₁/FVC measurements were below these standards in 37.6 per cent of nonsmokers, 50.5 per cent of ex-smokers, and 58.8 per cent of smoking miners.

When dust exposure was quantified according to the miner's working site, the investigator continued, a gradation emerged that ranged from least dust for

surface workers through increasing exposure for those employed in maintenance and transportation to greatest exposure for face workers.

"In the miners who were either non- or ex-smokers, the prevalence of bronchitis increased with dust exposure. Among the smokers, the differences were less and not significant," Dr. Kibelstis reported.

"In general, face workers had lower FEV₁/FVC ratios than surface workers, but the difference was not statistically significant," he declared. "When observed FEV₁/FVC values were compared with FEV₁/FVC ratios 2 standard deviations below the mean of the EISC, 17.8 per cent of smokers, 13.8 per cent of ex-smokers, and 6.3 per cent of nonsmokers could be considered obstructed."

He concluded: "The findings suggest that although dust exposure plays a minor role in the etiology of chronic bronchitis of coal miners, cigarette smoking is of much greater importance."

Coauthors were Drs. N. LeRoy Lapp, Anthony Seaton, and W. Keith C. Morgan.

Miners Seen Getting Disability For Consequences of Smoking

From University of Louisville

In a related paper, Dr. William Anderson, Professor of Medicine at the University of Louisville, Ky., told a symposium on occupational lung disease that many miners are getting disability pay for the consequences of smoking rather than occupational disease.

"Subjects exposed to potential inhalation

Cancer Chemotherapy Expert In U.S.S.R. in Joint Program

Medical Tribune Report

BETHESDA, Md.—Dr. James F. Holland, a specialist in cancer chemotherapy, is at work in the Soviet Union under a one-year appointment to help carry out the new U.S.-U.S.S.R. collaborative program on cancer drugs, it was announced by Dr. Frank J. Rauscher, Jr., director of the National Cancer Program of the National Institutes of Health.

Dr. Holland, the first U.S. scientist recruited for the program, is a past president of the American Association for Cancer Research. He is on leave from his duties as director of the Cancer Clinical Research Center at the Roswell Park Memorial Institute, Buffalo.

During the assignment, he plans to study methods used by Soviet scientists to develop and evaluate cancer drugs. At the same time, he will coauthor papers with Russian scientists, organize seminars on drug research, and help develop treatment programs for gastrointestinal cancers.

Additional irritants still get the same disease as the general population," Dr. Anderson noted. In a significant number of instances, he said, the chronic obstructive lung disease "may have an increased effect due to smoking and industrial pollutants. But smoking is the predominant [cause]."

Asserting that the coal industry is, in some respects, being held responsible for the consequences of a widespread social practice, Dr. Anderson declared: "If we give a man compensation for disability due to chronic obstructive lung disease, let's not worry about what caused the disease—emphysema, coal dust, or smoking."

Dr. Luria to Head Cancer Study Unit Planned for M.I.T.

Medical Tribune Report

CAMBRIDGE, MASS.—A major Center for Cancer Research will be established at the Massachusetts Institute of Technology under the direction of Dr. Salvador E. Luria, Nobel Prize-winning biologist.

The National Cancer Institute announced a grant of \$3,150,000 for alterations and renovations of facilities for the center, and one of \$136,376 for operating costs for the first preparatory year. A commitment also has been made by NCI for an additional three years of operating support for a total of \$1,891,000, subject to the availability of funds.

At the same time, M.I.T. president Jerome B. Wiesner and Howard W. Johnson, chairman of the M.I.T. Corporation, announced that the institute will add \$1,800,000 toward the construction costs.

By the time the center is in full operation in the fall of 1975, it will have 12 investigators of faculty rank, of whom one or two will be persons already affiliated with M.I.T., Dr. Luria said. Faculty members will receive dual appointments to the center and to the M.I.T. department of their specialty.

Will Have Staff of 60

The center eventually will have about 60 professional staff members and technical assistants and a total work force of about 150 persons.

"Despite the concepts and research tools that 25 years of cancer research have developed, cancer research is not ready for a crash-program approach," Dr. Luria said. "Along with research, therefore, the center will devote a great deal of effort to training young people—physicians, Ph.D.s, and graduate students—in the field of cancer research."

The over-all plan of attack will be to approach a number of research problems at the molecular biology level. This approach, it was noted, has been taken only at a few major institutions and at the National Institutes of Health. The research will be divided into four major areas—viruses, cell biology, immunology, and cell development.

ECTOPIC BEAT

"The last word on the issue may be the bumper sticker which notes 'Teach Johnny to READ, not BREATHE.'"

—Bulletin of the Harris County (Tex.) Medical Society.

But how'll we keep him out of trouble until he learns to READ the bumper sticker?

(Regular beats *Immunaria Medica*, page 27.)

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MEDICAL TRIBUNE is published each Wednesday by Medical Tribune, Inc., 880 Third Avenue, New York, N.Y. 10022. Controlled circulation postage paid at Farmingdale, N.Y. 11735. Subscription \$12.50, Students, \$7.50.

At 10:17a.m. Emmy Burns' future started looking brighter

R_x



An important step was taken to re-control her hypertension and decrease her vulnerability to organ damage

Emmy Burns just received her prescription for Ismelin. Her blood pressure was no longer responsive to milder agents. So her physician decided that this was the right time to add Ismelin. Because Ismelin is guanethidine, perhaps the most effective anti-hypertensive ever available for moderate to severe hypertension. And when blood pressure is controlled with Ismelin, it usually stays controlled.

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Ismelin 10mg
#30
Sylvestre

Ismelin[®] sulfate
(guanethidine sulfate)
sooner may
be better for
the uncontrolled
hypertensive

When Ismelin is added to thiazides, increments must be gradual and dosage of all drugs reduced to lowest effective level once blood-pressure control is established. With reduction of dosage, side effects often are minimized. Patients should be warned about orthostatic hypotension, especially during initial dosage adjustment and with postural changes. They should avoid sudden or prolonged standing or exercise and should sit or lie down if dizzy or weak. Uncontrolled hypertension of any degree poses an unacceptable risk to the patient's future well-being.

ISMELIN[®] sulfate
(guanethidine sulfate)
INDICATIONS: Primarily for severe or sustained elevation of blood pressure (particularly diastolic) and almost all forms of fixed and progressive hypertension, even when blood pressure is moderate. Not recommended for labile or mild forms of hypertension.

CONTRAINDICATIONS: Known or suspected pheochromocytoma; hypersensitivity to Ismelin. Do not use with MAO inhibitors.

WARNINGS: Ismelin is a potent drug and can lead to (disturbing and serious clinical problems. Warn patients not to deviate from instructions and about which can occur frequently. To prevent fainting, patients should sit or lie down with onset of dizziness or weakness, which may be particularly marked during initial dosage adjustment and with postural changes. Postural hypotension is most marked in the morning and is accentuated by hot weather, alcohol, or exercise. Warn patients to avoid sudden or prolonged standing or exercise while taking Ismelin. Concurrent use with rauwolfia derivatives may cause excessive postural hypotension, bradycardia, and mental depression.

PRECAUTIONS: Give very cautiously to hypertensives with (a) renal disease with nitrogen retention; (b) coronary disease with angina pectoris or recent myocardial infarction; (c) cerebral vascular disease, especially with encephalopathy; and (d) rising BUN levels. Give with extreme caution to those with severe congestive failure. Watch for weight gain of edema in patients with latent cardiac decompensation. If edema is noted, reduce dosage. Remember that both drugs used with Ismelin, reserpine and thiazides, may increase the heart rate. Appropriate suppressants (e.g., amphetamines), mild stimulants (e.g., caffeine, methylphenidate), and the poly-adrenergic drugs (e.g., imipramine, phenyltolipidine, doxepin) may decrease the hypotensive effect of Ismelin. Watch for weakness after discontinuing MAO inhibitors before starting Ismelin.

ADVERSE REACTIONS: Frequent reactions include: fatigue, weakness, dizziness, loss of appetite, constipation, dry mouth, dry eyes, nasal congestion, weight gain, and asthma in susceptible individuals. Headache and other chronic disorders may be aggravated by a relative increase in norepinephrine. Some patients may experience orthostatic hypotension. In some cases, orthostatic hypotension is relieved during prolonged therapy. **ADVERSE REACTIONS:** Frequent reactions include: fatigue, weakness, dizziness, loss of appetite, constipation, dry mouth, dry eyes, nasal congestion, weight gain, and asthma in susceptible individuals.

DOSEAGE AND ADMINISTRATION: Initial dosage should be low and increased gradually by small increments. **Before starting therapy, consult complete product literature.** **HOW SUPPLIED:** Tablets, 10 mg (pink, yellow, scored) and 25 mg (white, scored); bottles of 100 and 1000.

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C I B A

Wednesday, December 27, 1972

MEDICAL TRIBUNE

What's new and important in cytology?



DR. GEORGE WEID
Professor,
University of Chicago Schools
of Cytology and Cytochemistry,
Chicago

THIS COULD BE SUMMARIZED as follows: work is needed on further development of conventional and automated cytologic techniques in the clinical diagnosis of as many tumors as possible. The areas of importance are increased reliability of the cell interpretation to reduce false diagnosis, increased sensitivity to uncover earlier lesions, increased range of applications, and decreased costs.

These goals could be accomplished by following these key steps:

1. Continuation of the development of conventional diagnostic cytology, emphasizing the extension to all accessible anatomic sites.

2. Stressing the broad application of histochemical, immunologic, and/or genetic principles in the development of diagnostic criteria for the cancer cell.

3. Development of basic methodology of automated cytologic techniques and the improvement of sample preparation to selectively obtain more abnormal cells for further analysis by machine or by eye. The latter development will require teamwork of cytopathologists with engineers, cell biologists, mathematicians, and computer experts so that the technology developed will be properly directed toward clinical goals and is fully exploited.

Should Papanicolaou smears of the cervix be made in all women at least once yearly, or should distinctions be made according to race, etc.? If all women were regularly screened, would reviewing the slides exceed the availability of pathologists, as some have said?

As a general rule, one would have to say that cytologic specimens should be taken annually on all women above the age of 20 and on all women regardless of age who are using either oral contraceptive substances or intrauterine devices. Theoretically, one could divide patients into low-risk and high-risk groups, such as wealthy, Jewish virgins versus poverty-stricken, black, multiparous young women. The low-risk group would probably be satisfactorily screened every two years. The high-risk group may warrant at least annual, if not two annual, cytologic screenings. In routine practice, such clear divisions of risk groups hardly exist.

Another problem with the possible settings of rules on how often smears should be repeated is the fact that it is quite conceivable that the first and even the second screenings have missed the already existing early lesion. This may be due to faulty specimen preparation, due to inadequate screening of the sample or due to an interpretative mistake. For our statistical purposes we classify the first two and sometimes the first three screenings as belonging to the elimination of cancer "prevalence" and talk about "incidence" only, from the third or even the fourth screenings on.

The question if there is enough personnel available to handle annual screenings of all women for uterine cancer is actually only of secondary importance: if there were such a demand for these services, the pathologists will be able to rapidly adjust their laboratories to such a demand. The sorry fact is that there is not such a demand made by the apparently healthy women. Even in instances where such screening services are offered without charge, there is insufficient understanding on the part of the patient that annual smears are the only safe procedure to protect themselves from cervical cancer.

Is preinvasive cervical carcinoma

in situ a significant lesion, and how should it be handled?

Several terminology committees of national and international organizations have attempted to define what constitutes a carcinoma in situ of the uterine cervix. Experience shows that, no matter how many committees will issue reports on this topic, there remain the two main classes of interpreters: the "conservative" and the "liberal" histopathologist. What is still dysplasia to the conservative may be already carcinoma in situ to the less conservative. A tissue section which was diagnosed as a carcinoma in situ today may be called severe dysplasia by the same pathologist a few months hence. We deal sometimes with intra- and interpathologist differences of opinion in this crucial diagnostic problem of carcinoma in situ.

Considering these remarks on standardization of the lesion called carcinoma in situ of the uterine cervix, it is almost presumptive to recommend general rules how it should be handled. However, one would possibly find that many will agree to make the following general recommendations following management of such lesions:

1. A histologically verified carcinoma in situ in a patient past the reproductive years warrants hysterectomy.

2. A histologically verified carcinoma in situ or severe dysplasia in a woman during her reproductive years should be initially treated with a well-performed cone biopsy. The emphasis is on "well performed," since in my opinion the performance of a good cone biopsy is probably the most difficult surgical procedure in gynecology. If repeated smears (six to 10 weeks after the conization) show no tumor cells, the patient should return for repeated smears each six months through three years, and if no tumor cells are found, the condition can be considered eliminated. If unequivocal malignant tumor cells are found after cone biopsy, the treatment of choice may be hysterectomy.

3. Conditions identified as moderate to marked dysplasias which exist for more than two years should be treated with a well-performed cone biopsy.

What is your attitude towards oral contraceptives regarding the incidence of thromboembolism, hypertension, positive antinuclear tests, etc.? When a woman requires contraceptive intervention, how should the choice between an IUD or oral contraceptives be made?

Practically no medication is free of potential undesirable effects or side effects. When one assesses the potential side effects or risks of administration of oral contraceptives, which are recorded as relatively very rare incidences in the literature and in retrospective studies, one will have to compare these risks with the risk of pregnancy and/or the risk of interruption of an existing pregnancy. Surely, the latter represent larger risks than oral contraceptives.

Some may say that oral contraceptives were released prematurely without enough

prospective studies, among them prospective studies on their possible long-term effects on the cervical epithelium. However, such prospective studies, with appropriate control groups encompassing the major covariables, could not only take many years to complete, be extremely difficult to keep "clean" as far as the data are concerned, but may have been conducted on substances which are long withdrawn from the market by the time any meaningful results are available. The extreme importance of effective contraceptive medication outweighs other considerations.

When a choice has to be made between IUDs and oral contraceptives, one has to make sure that the patient is aware that IUDs are "unsafe" in the sense of their contraceptive results, whereas properly taken oral contraceptives are safe protection against pregnancy, and that cases of perforation using IUDs were observed. The actual contraindications against oral contraceptives are existing thrombophlebitis, thromboembolic disorders, cerebral apoplexy, markedly impaired liver function, carcinoma of the breast, and undiagnosed abnormal uterine bleeding. For the patients in whom none of these contraindications exist, my choice would be a low-estrogen dose of oral contraceptive substance over any IUD. Diaphragms and IUDs should be given only to those who cannot and do not wish to take oral contraceptive substances.

What is the status of estrogen therapy for menopausal women? Is hormonal cytology useful in determining such replacement therapy?

Dr. M. Edward Davis, the emeritus chief of service of the Chicago Lying-In Hospital, used long-term estrogen therapy in menopausal women for many years for several indications. No increase in atypical epithelia of any organ of the body could be found in these patients. Estrogens should be administered in the lowest dosage effective to relieve the symptoms, which are usually below the endometrial threshold dosage.

Cytology is mostly of importance prior to onset of any long-term estrogen therapy in the evaluation of the condition of the endometrium. One could suggest that every menopausal woman should have either a D & C or an endometrial aspiration (e.g., the Gravlee jet wash), performed prior to initiation of long-term estrogen treatment to assure that no subclinical endometrial lesions were overlooked. My preference would be the Gravlee jet wash over curettage for these cases, because it is equally accurate in the hand of the experienced cytopathologist, while being less traumatic and less costly to the patient. The current drawbacks of the Gravlee jet wash are that some gynecologists are unfamiliar with the technique (thus prepare inadequate samples) and

Next In Consultation

DR. PAUL W. BROWN, Professor of Orthopaedic Surgery, Division of Hand Surgery Service, Department of Orthopaedics and Rehabilitation, University of Miami, Coral Gables, Fla.

...will answer such questions as:

- When is reconstructive surgery indicated for the rheumatoid hand?
- What is the prognosis after repair of a severed peripheral nerve, and what measures should be taken by the first physician to see the patient?

that some pathologists are unfamiliar with the material (thus prepare poor specimens, resulting in less than optimum readings). Continuing education may overcome this predominantly technical problem of the Gravlee jet wash method, however.

Hormonal cytology for the evaluation of the menopausal patient may be performed, even in the gynecologist's office, by using a supravital staining reaction, such as the one used by A. E. Rakoff. However, the assessment of who should obtain estrogens in menopause on the basis of the cytologic smear is unsatisfactory. There is no direct relationship between the cell pattern in menopause and the subjective symptoms in most cases. Therefore, it would sound like advocating treating the cytologic sample rather than the patient if one were to rely on hormonal cytology for who should or should not obtain estrogen therapy during menopause.

Laws to Require the Use Of Car Restraints Asked

Medical Tribune Report

CHAPEL HILL, N.C.—The American Association for Automotive Medicine, at its annual meeting here, urged the development and enactment of legislation by the states to require the use of occupant restraint systems in automobiles when available.

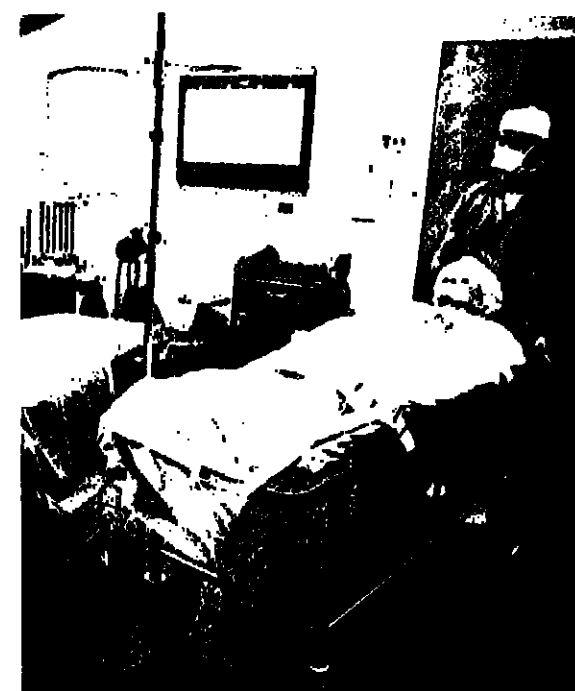
The stand taken by the Association was reported by Dr. J. L. Weygandt, president, in a letter to James E. Wilson, associate administrator of the National Highway Traffic Safety Administration. He quoted the A.A.A.M.'s resolution as follows:

"The American Association for Automotive Medicine strongly supports the National Highway Traffic Safety Administration in the development and promulgation of a Highway Safety Program standard which will require that states enact legislation mandating the use of occupant restraint systems. It is further recommended that such laws prohibit removing or otherwise disabling available restraint systems. A.A.A.M. will support efforts of the states to enact such legislation."



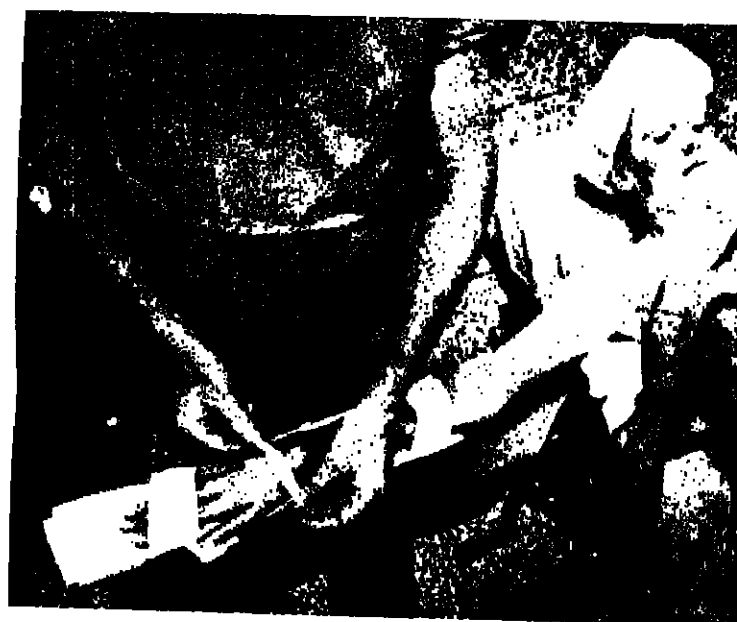
"You should have come sooner."

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If the patient is overanxious one to two hours prior to surgery, the anxiety

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Injectable Valium (diazepam) is a useful premedicant for reducing undue anxiety. Recall of preoperative procedures is markedly diminished. When given in conjunction with narcotics, a reduction of narcotic dosage should be considered. (See summary of prescribing information.) Injectable Valium should not be mixed with other drugs, solutions, or fluids. The new 10-mg disposable syringe can help you observe this precaution at the same time it helps assure aseptic handling. Injectable Valium seldom significantly alters vital signs. Nevertheless, there have been infrequent reports of hypotension and rare reports of apnea and cardiac arrest, usually following I. V. administration. Resuscitative facilities should be available.

To relieve excessive preoperative anxiety, remember Injectable Valium (5 mg/ml)—2-ml ampuls, 10-ml vials, and the new 2-ml Tel-E-Ject™ (disposable syringes).

Additionally, Injectable Valium (diazepam) can

diminish recall of the preoperative procedure.

Before prescribing, please consult complete product information, a summary of which follows:

Indications: Tension and anxiety states; somatic complaints which are concomitants of emotional factors; psychoneurotic states manifested by tension, anxiety, apprehension, fatigue, depressive symptoms or agitation; symptomatic relief of acute agitation, tremor, delirium tremens and hallucinosis due to acute alcohol withdrawal; adjunctively in: relief of skeletal muscle spasm due to reflex spasm to local pathology; spasticity caused by upper motor neuron disorders; athetosis; stiff-man syndrome; tetanus; status epilepticus and severe recurrent seizures; anxiety

prior to gastroscopy, esophagoscopy, and surgical procedures; cardioversion (I. V.).

Contraindicated: In infants; in patients with known hypersensitivity to the drug; in acute narrow angle glaucoma; may be used in patients with open angle glaucoma receiving appropriate therapy.

Warnings: Inject I. V. slowly, directly into vein; take at least one minute for each 5 mg (1 ml) given. Do not mix or dilute with other solutions or drugs. Do not add to I. V. fluids. Rare reports of apnea or cardiac arrest noted, usually following I. V. administration, especially in elderly or very ill and those with limited pulmonary reserve; duration is brief; resuscitative facilities should be

available. Not recommended as sole treatment for psychotic or severely depressed patients. Should not be administered to patients in shock, coma, acute alcoholic intoxication with depression of vital signs. Caution against hazardous occupations requiring complete mental alertness. Advise against simultaneous ingestion of alcohol and other CNS depressants. Withdrawal symptoms (similar to those with barbiturates and alcohol) have occurred following abrupt discontinuance (convulsions, tremor, abdominal and muscle cramps, vomiting and sweating). Keep addiction-prone individuals under careful surveillance because of their predisposition to habituation and dependence. In pregnancy,

lactation or women of childbearing age, weigh potential benefit against possible hazard to mother and child.

Precautions: If combined with other psychotropics or anticonvulsants, carefully consider individual pharmacologic effects—particularly with known compounds which may potentiate action of Valium, such as phenothiazines, narcotics, barbiturates, MAO inhibitors and other antidepressants. Usual precautions indicated in patients severely depressed, or with latent depression, or with suicidal tendencies. Observe usual precautions in impaired renal or hepatic function. Not recommended for bronchoscopy, laryngoscopy, obstetrical use, or in diagnostic procedures other than

gastroscopy and esophagoscopy. Laryngospasm and increased cough reflex are possible during gastroscopy; necessary countermeasures should be available. Hypotension or muscular weakness possible, particularly when used with narcotics, barbiturates or alcohol. Since effect with narcotics may be additive, appropriate reduction in narcotic dosage is possible. Use lower doses (2 to 5 mg) for elderly and debilitated. Safety and efficacy in children under 12 not established.

Side Effects: Drowsiness, fatigue, ataxia, confusion, depression, constipation, dysarthria, diplopia, headache, hypoaesthesia, hiccups, hypotension, incontinence, jaundice, nausea, changes

in libido, changes in salivation, phlebitis at injection site, urinary retention, skin rash, syncope, slurred speech, urticaria, tremor, vertigo, blurred vision. Paradoxical reactions such as acute hyperexcited states, anxiety, hallucinations, increased muscle spasticity, insomnia, rage, sleep disturbances and stimulation have been reported; should these occur, use of the drug should be discontinued. Isolated reports of neutropenia, jaundice; periodic blood counts and liver function tests advisable during long-term therapy. Minor EEG changes, usually low-voltage fast activity, of no known significance.

ROCHE Roche Laboratories Division of Hoffmann-La Roche Inc. Nutley, N.J. 07110

Injectable Valium® (diazepam)

benefits every step of the way.

A.M.A. Votes Committee on Quality Control

Continued from page 1

clude many "peers"—i.e., physicians—but they also conceivably could have nonphysicians sitting in judgment of health care operations.

The regulations that will get PSROs into operation have not yet been written. This is what the A.M.A. wants to get in on—and what the delegates approved by voting for the creation of an Advisory Committee on Professional Standards Review.

As Dr. W. B. Hildebrand, chairman of the A.M.A. Council on Medical Service, exhorted: "We must move with speed to aid in writing the regulations—we can't wait until June," which is the next A.M.A. convention date.

A few delegate protests, however, rang back to the days of complete professional self-determination. The strongest came from Dr. Thomas Parker, South Carolina delegate, who emphasized that PSRO is "contrary to our best opinions." He also had a rhetorical question: "Morally, does passage of a law turn a bad program into a good one?"

Dr. Parker warned against what he called the "Appel situation as in 1965," a reference to then president of the A.M.A., Dr. James Z. Appel. "He told Congress we'd be good citizens," soft-voiced Dr. Parker said, "and the next month they passed Medicare."

Knowledgeable delegates in the corridors, however, were privately quick to point out that Medicare has not been a disaster for physicians. In a similar sense, PSRO has not reached the status of a law without reflecting a lot of the A.M.A. philosophy—o.g., it covers only institutional services until at least 1976. Sensored observers of the House of Delegates, therefore, regarded as window-dressing such protests as the printed cards that stated, "PSRO is a four-letter word."

Along with voting to pry into the PSRO implementation, the delegates also hung some riders onto the action, which would (1) ensure that constituent medical societies get the information they need to understand P.L. 92-603, (2) monitor the PSRO development for information that might make possible "future bills" more along the line of peer review, and (3) keep an eye on the effect of PSRO "on the quality of medical care."

The enactment of H.R. 1 into law hardly a month before the convention here left the delegates little opportunity to organize a reaction to some of the measure's more galling items—such as coverage of chiropractic services under Medicare—but the A.M.A. president managed to respond to one aspect.

Dr. C. A. Hoffman, in his midterm address, endorsed the idea of Federal aid in event of such "catastrophic" illnesses as uremic poisoning. P.L. 92-603 provides financial protection under Medicare—re-

gardless of the patient's age—for both hemodialysis and renal transplant in the event of chronic kidney failure.

Dr. Hoffman went further in suggesting that "a number of conditions he specified as catastrophic—hemophilia, stroke, severe burns, and severe injury, for instance."

The A.M.A. president, who toured the Soviet Union and Europe earlier this year to see if they had any medical care answers that the U.S. could use, also offered a plan to ease the "maldistribution" of medical talent, which is a euphemism for the fact that there is a shortage of doctors where most doctors don't like to work.

While the Soviet Union sends physicians willy-nilly to such areas, Dr. Hoffman said, he would urge that U.S. medical students be enticed to the ghettos and Appalachias by an "unbreakable contract." A student would sign such a contract, guaranteeing three or four years' service in areas of need, in exchange for state or for Fed-

eral financing of his medical education. Among varied responses to Federal and other public health policies, the delegates maintained flat-footed opposition to the concept of the Health Maintenance Organization (HMO) as a major purveyor of medical care. The HMO is a Nixon Administration formulation whose outlines are not clear but whose function would be along the lines of a prepaid group practice. Acknowledging that such things exist, the delegates emphasized that they "support the pluralistic health care system."

Since all proposals for a national health insurance are up in the air between Congresses, the delegates seemed gratified to hear that A.M.A.'s "Mediredit" plan is being revamped for reintroduction on Capitol Hill. Possible changes in the bill, A.M.A. trustees said, include the addition of both dental and prescription drug benefits under the plan.

On the phenomenon of "free clinics," which have blossomed for the benefit of one subculture or another, the delegates voted to have the A.M.A. "provide continued assistance for improving the quality of care" in them. An A.M.A. council that studied the matter identified three main types of free clinics—"hippie, neighbor-

hood, youth." The movement "appears to be gaining momentum," the council said, and over the past year an estimated 2,000,000 patient visits have been made to free clinics.

In some other actions, the delegates: Turned down an Oklahoma resolution calling for a Congressional investigation of the Medicare administration.

Agreed that physician specialization continues to be a "problem" to the furnishing of primary care, but also approved the establishment of two new specialty sections of the A.M.A. The subgroups, for cardiovascular disease and plastic and reconstructive surgery, raise the total of specialty sections to 27.

Renewed on last June's endorsement of a national tumor registry. The move here came on advice from an A.M.A. cancer committee, which said that trained personnel are too scarce and the cost of such a registry is too great to promote the idea.

Heard from the trustees that a study of "collective bargaining" by physicians is still going on. Delegates asked for such a study last June, harking to increasing cries for physicians' "unions." A report is due at next June's convention.

Approved a formal "referral pattern" to channel the "sick doctor" into appropriate treatment for psychiatric illness, drug addiction, or alcoholism.

Wednesday, December 27, 1972

GI Tract Snags May Mar Renal Transplants

Medical Tribune Report

New York—Colon and rectal complications of kidney transplant procedures may be linked to the weakening of the body's defense mechanism through the use of heavy dosages of immunosuppressive drugs, the annual meeting of the American Proctologic Society was told here.

Dr. Santhar Nivatvongs, of the University of Minnesota Hospitals in Minneapolis, reporting on 13 colon and rectal complication cases in a series of 225 renal homograft operations, said that complications of the gastrointestinal tract "have contributed conspicuously to the mortality of the operations."

Dr. Nivatvongs singled out steroids in particular as having the ability to "mask symptoms of serious pathology; namely pain, fever, and leukocytosis."

"It is understandable," he asserted, noting that several patients in the study died of unsuspected cases of necrotizing enterocolitis and perforations, "that complications can reach serious proportions before being recognized if, in fact, they can be recognized at all while the patient is yet alive."

Dr. Nivatvongs named five main categories of colon and rectal complications seen in the study:

- Sepsis associated with necrotizing enterocolitis (three cases).
- Sepsis associated with perforations of the bowel or of a sigmoid diverticulum (five cases).
- Massive hemorrhage from a cecal ulcer (two cases).
- Right-sided fecal impaction (two cases).
- Proctalgia due to ureterovesical obstruction (one case; first recorded).

All 10 patients in the first three categories died.

Immunosuppressive drugs and antibiotics are implicated in the origin of necrotizing ulcerative lesions, he declared, since the incidence of the complication "has been reduced markedly at this institution following the introduction of antilymphocyte globulin in the posttransplant regime" and the consequent reduction of immunosuppressive dosages needed.

Dr. Nivatvongs speculated that vasomotor response to surgical blood loss, causing local ischemia in the intestines, and the subsequent pathologic changes are implicated in necrotizing enterocolitis.

This instability, he proposed, is aggravated further by factors related to the management of transplant patients, such as uremia, rejection, and high dosages of immunosuppressives—all of which upset the defense mechanism of the intestine—and the use of "very potent antibiotics," which alter the intestinal flora.

Radiation therapy for rejection is not a causative factor, he maintained, since the dosage is too low (less than 3,250 r) to cause vascular occlusion.

The pathologic processes leading to cecal ulcers or to perforations of the bowel or of diverticula, he hypothesized, are similar to those underlying necrotizing ulcerative enterocolitis, "except that the areas of focal necrosis are limited to single small areas."

In order to avoid colon and rectal complications of kidney transplants, Dr. Nivatvongs recommended the use of antilymphocyte globulin to reduce the need for other immunosuppressives and the avoidance of trauma to the colon during surgery.

Coauthors were Drs. William C. Bernstein and Marion B. Tallent, both of the University of Minnesota Hospitals.

...brief summaries of editorials or guest editorials in current medical journals.

Physicians and Futurology

Unfortunately, few in the healthsciences have participated in planning "their role in our society as it is likely to be at the end of this century and the beginning of the twenty-first century."

It has been pointed out many times that "the world is changing...at an ever-increasing rate. The sources of benefits and adversities that will aid in guaranteeing individual and group health on the one hand, and lead to individual and group decompensation on the other, are likely to be quite different in the next generation from what they are today."

"Technologists and social scientists dominate today's world and the entire futurologic movement. Unfortunately...the vast majority of technologists, whether they are present or future oriented, create technologies for technology's sake, devoid of a concept of humanistic needs and controls."

"Similarly, social scientists for the most part are capable of projecting and planning solely in terms of masses of people and are completely unable to conceptualize the effects of massive technologic or social change upon the individual..."

"The futurologic movement urgently requires the active participation of physicians and psychotherapists, persons who comprehend the capacities and limitations, both physical and psychological, of the individual man. Without such participation, there is real danger that the future might be a sociotechnologic nightmare, devoid of sufficient humanistic purposes." Stanley Lesse, M.D. (*Am. J. Psychotherapy* 24: 477 October, 1972.)

Lead in Human Hair

"We do not intend to minimize the effect of the environmental lead on man's health," but in comparing the lead content of human hair removed from persons between 1871 and 1923 with samples obtained from rural and urban U.S. populations, it was found that "the lead content per unit weight of hair was significantly [$p < .01$] higher in the antique (1871-1923) population than in present day populations" in both adults and children. "These results indicate that the lead content of human hair has markedly decreased in the last 50 years in spite of a general increase in atmospheric lead concentrations."

"...The high concentrations found in our antique population most likely reflect a greater ingestion of lead than would be expected for contemporary populations, with the exception perhaps of ghetto children, persons drinking illicit alcohol, or special industrial populations whose exposure to potential sources of contamination is unusually high. Thus, the lower lead content in human hair in our contemporary population is probably a result of greater precautions in the use of lead in spite of a general increase in atmospheric concentrations." D. Weiss *et al.*, article (*Science* 178:70 October 6, 1972.)

Uses of Endoscopy

The gastroscope and the development of duodenoscopy represent a revolution in diagnostics. Colonoscopy is now replacing rectoscopy. The entire colon is becoming accessible for direct inspection and biopsy. Diagnostics in this area ought to be able to make just as great strides as in the area of the duodenum. Endoscopy ought not to be limited to larger regional hospitals. It should also be practiced at more local hospitals. In those instances where the existing organization precludes a sufficiently high preparedness for acute medicine and surgery, investigative measures of this type ought to be developed. Editorial. (*Läkartidningen [J. Swedish M.A.]* 69:39, September 20, 1972.)

Apresoline...an antihypertensive idea whostime has come

A flexible approach that helps meet the goals of today's new therapeutic concepts

Early and more vigorous treatment of hypertension. More adequate control of blood pressure. Antihypertensive regimens closely molded to individual requirements.

These goals can be met in part with Apresoline. An antihypertensive agent unique in its mode of action, Apresoline can be combined, for added control, with other antihypertensives—thiazide and nonthiazide diuretics, sympathetic-inhibiting agents, and rauwolfia alkaloids. The result: greater choice to the physician in constructing an appropriate regimen.

Apresoline differs from other available antihypertensives in that it appears to act directly on the arterioles where diastolic blood pressure is ultimately controlled. By relaxing arteriolar smooth muscle, it decreases peripheral vascular resistance—decreases arterial pressure.

Apresoline also helps increase renal blood flow and maintain glomerular filtration, and to maintain or increase cerebral blood flow. When Apresoline is added to existing regimens, dosages of each drug are usually lower than when used alone, thus tending to reduce risk of side effects.

Apresoline (hydralazine)

Meets today's needs because it can contribute so much to so many antihypertensive regimens

Apresoline (hydralazine hydrochloride)

TABLETS
INDICATIONS
Essential hypertension, alone or as an adjunct.
CONTRAINDICATIONS
Hypersensitivity; coronary artery disease; mitral valvular rheumatic heart disease.
WARNINGS
Chronic administration of doses over 400 mg per day may produce an arrhythmia-like syndrome leading to a clinical picture simulating acute systemic lupus erythematosus. In rare instances, this may occur at lower doses. Most of these

reactions are reversible upon withdrawal of therapy, but long-term treatment with steroids may be necessary. An L. E. cell preparation is indicated in the presence of any unexplained symptoms.
Use MAO inhibitors with caution.
Usage in pregnancy
Although there has been no adverse experience with Apresoline in pregnancy, the drug should be used only when, in the judgment of the physician, it is deemed essential to the welfare of the patient.
PRECAUTIONS
Use cautiously in suspected coronary artery or other cardiovascular diseases, cerebral vascular accidents, and advanced renal damage. Postural

hypotension may occur, and the pressor response to epinephrine may be reduced.
Peripheral neuritis, evidenced by paresthesias, numbness, and tingling, has been observed. Published evidence suggests an antiparkinsonian effect and addition of antiparkinsonian drugs if symptoms develop.
Blood dyscrasias, consisting of reduction in hemoglobin and red cell count, leukopenia, agranulocytosis, and purpura, have been reported rarely. If such abnormalities develop, discontinue therapy. Periodic blood counts are advised during prolonged therapy.
ADVERSE REACTIONS
Common: Headache; palpitations; anorexia; nausea; vomiting; diarrhea; tachycardia; pri-

aporia. Less frequent: Nasal congestion; flushing; lacrimation; conjunctivitis; peripheral neuritis, evidenced by paresthesias, numbness, and tingling; edema; dizziness; tremor; muscle cramps; psychotic reactions characterized by depression; disorientation; or anxiety; hypersensitivity (including rash, urticaria, pruritus, fever, chills, arthralgia, eosinophilia, and, rarely, hepatic dysfunction); difficulty in micturition; dyspnea; paralytic ileus; lymphadenopathy; splenomegaly; blood dyscrasias, consisting of reduction in hemoglobin and red cell count, leukopenia, agranulocytosis, and purpura.
DOSE
Initiate therapy in gradually increasing dosages; adjust according to individual response. Start

with 10 mg 4 times daily for the first 2 to 4 days. Increase to 25 mg 4 times daily for balance of first week; for second and subsequent weeks, increase dosage to 50 mg 4 times daily. For maintenance, adjust dosage to lowest effective level.
Although a number of patients respond to large doses of Apresoline alone, the incidence of toxic reactions, particularly the L. E. cell syndrome, is high in this group. The majority of patients have a significant antihypertensive effect if no more than 300 mg Apresoline is used daily and is combined with a thiazide, reserpine, or both.
HOW SUPPLIED
Tablets, 10 mg (pink, oval, dry-coated); bottles of 100 and 1000.

Tablets, 25 mg (deep blue, dry-coated); bottles of 100, 500, and 1000.
Tablets, 50 mg (light blue, dry-coated); bottles of 100, 500, and 1000.
Tablets, 100 mg (pink, dry-coated); bottles of 100.
Consult complete literature before prescribing.
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C I B A

COMING NEXT ISSUE

- **Pleuropulmonary Ills**
Anaerobic bacteria "commonly overlooked" as a cause.
- **Public hospitals**
Institutions in Italy facing a financial crisis.
- **Myocardial Infarct**
Mortality tied to frequency of ventricular premature beats.

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One Man...and Medicine

ARTHUR M. SACKLER, M.D.,
International Publisher, Medical Tribune



Minks and "the Pill"

I HAD HEARD A STORY—what was it, 20 years ago?—and I never quite forgot it because it was an excellent example of the unknown variable. Lately we learned that in making cost estimates for esoteric aerospace stuff, engineers make budgetary accommodations for the "unknowns" and then an additional budgetary override for the "unknown unknowns." And that really makes sense.

For years I have been studying what I've called "common unrecognized variables in biologic experimentation" and have published many reports on the subject. The deeper I probe, the more humbling becomes the experience. In fact, one reaches a point where one is astonished that in the present state of biologic experimentation we have even been able to succeed in demonstrating as much as we have.

Pregnancy and Beef Prices

Recently MEDICAL TRIBUNE commented on the FDA's action in restricting diethylstilbestrol for fattening cattle. At that time we had observed the FDA Commissioner's concern as to the real effect of his restrictions. One truly never knows how far the ripples of a single action may go.

The Agricultural Department estimated that, as a result of the ban on DES, the price of beef would go up 3¢ a pound. Physicians interested in the problem of protein malnutrition of the poor would have reason to worry about further protein restriction from diets already marginal. For pregnant women, a dilemma would be presented. With the danger of protein malnutrition so often pointed out and so vigorously denounced by Brewer, we wonder, "Can the lack of dietary protein in pregnancy cause more damage than minute or infinitesimal residue of DES?"

Danger of Fetal Salvage

We noted a point which had been disturbing us for some time. In the adolescent girls who had developed vaginal malignancies, vaginal pathology had been attributed to the diethylstilbestrol administered to their mothers. Such a relationship might exist, but we do not know. Nobody has commented on the fact that at that time the use of DES during pregnancy was to prevent spontaneous abortion. We then raised the question as to whether physicians had salvaged a genetically defective fetus whose rejection by the uterus was "overridden" by DES therapy. How much less likely is this than a cellular metabolic disruption of a malignancy occurring 15 to 20 years after maternal (and presumptive fetal) exposure to a chemotherapeutic agent?

Mixed Blessings

In fact, the whole history of modern estrogen therapy is replete with surprises. The earliest estrogens were far less potent than today's, and the dosage ranges used

initially would be considered by many physicians today as homeopathic. Actually, one might today ascribe their benefits to a placebo effect. Yet, deriving from this belief in estrogen efficacy, second, third, and later "generations" of estrogens were developed. It is from these and the related progesterone developments that we evolved the modern contraceptive pill—a "blessing" which, I believe, is a mixed one. The effects of estrogens and progesterone on ovulation were known in the late '30s. To those who consider "the pill" as such a boon to mankind, the reasons for the delay in its application would constitute an interesting study—and the findings a valuable lesson. The hurdles that had to be overcome were not scientific but rather social and philosophic. Remember, in those days a substance that produced an abortion was an unethical, if not illegal, abortifacient. Consider the changes wrought by semantics—how different is the attitude toward a "retro-pill."

The Mink Catastrophe

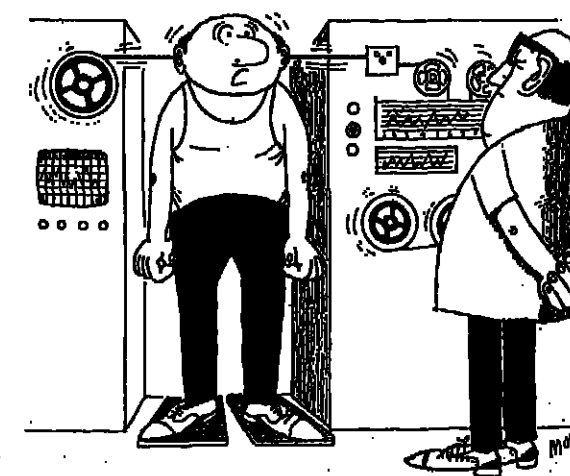
But to get back to the unexpected finding involving reproduction and DES—the story I was going to tell you. Historically chickens were caponized surgically. Then, one day, a bright fellow found that chemical "caponization" was faster, simpler, required less technical personnel, and was therefore more economic. Diethylstilbestrol pellets were shot into chickens' necks with a pellet gun. All this was unbeknownst to the mink ranch breeders' association, whose members for years had bought chicken parts unused for human consumption to feed their sleek minks.

Shortly after the extensive use of DES pellets for caponization, the mink industry faced catastrophe. The chicken necks were mink delicacies—and resulted in a disastrous drop in mink pregnancies. Breeding fell to an all-time low. Unbeknownst to all, mink breeders had been feeding female minks a chicken-neck "pill"—that also feminized the males.

EPIGRAMS—Clinical and Otherwise

Genius seems to consist in the power of applying the originality of youth to the experience of maturity.

Michael Polanyi (1891—)



"Say what you will, Doc—I still like the old 'Stick out your tongue and say Ah' method better."

© 1972 Medical Tribune

Infectious Disease Peril Cited In Nonsporulating Anaerobes

Continued from page 1

this type have now been identified in exudates or blood, and some of the ones found most frequently are resistant to many antimicrobial agents.

"The most common serious anaerobic infections observed in hospitals today are caused by gram-negative bacilli of the family Bacteroidaceae," he told the conference, which was sponsored by the Center for Disease Control, the Upjohn Company, and Emory University.

Dr. Goodman cited bacteremia as a "notable feature" of many such infections and described his experience in managing 58 patients with anaerobic bacteremia. All of the microorganisms were identified as Bacteroides species, he said, and the great majority were *B. fragilis*.

Most of the patients had either gastrointestinal or gynecologic diseases. Colonic surgery—primarily for cancer—was the single most frequent precipitating event. Several of the gynecologic patients also had undergone surgery for malignancy.

From this experience, Dr. Goodman suggests that the following clues can be helpful in reaching an early diagnosis of anaerobic gram-negative bacillary infection:

- Occurrence of sepsis in the setting of an intra-abdominal or pelvic condition, since anaerobes abound in the normal flora of the female genital tract and the large intestine.
- No response to antibiotics, such as cephalothin and gentamicin.
- Evidence of a brain abscess, which "must be assumed" to contain Bacteroides species.
- Foul-smelling exudate from abscesses or wounds. This provides a "potent though not infallible" clue.

● The observation, on gram staining of an exudate, of gram-negative rods that may not have been present in routine aerobic cultures.

● The tendency for Bacteroides to invade regional veins and produce septic thrombosis. Septic venous invasion may reveal itself by shedding pulmonary emboli. Metastatic pneumonia, lung abscess, or empyema can also result. Any such complications following gastrointestinal or gynecologic surgery "should strengthen the suspicion of Bacteroides sepsis."

Dr. Goodman commented that some anaerobic infections can be effectively treated by surgical intervention alone (drainage of abscesses and debridement) or antibiotic therapy alone but that many will require both regimens.

Treatment with antimicrobials must be started on an empiric basis, he added, because patients are often seriously ill and action will be essential before results of culture become available.

If an anaerobic infection is suspected, he thinks it is logical to assume that *B. fragilis* is present and to administer one of the agents to which nearly all anaerobic non-spore-forming bacilli appear susceptible—chloramphenicol or clindamycin. "Other potentially effective agents, such as rifampin and metronidazole, are under investigation."

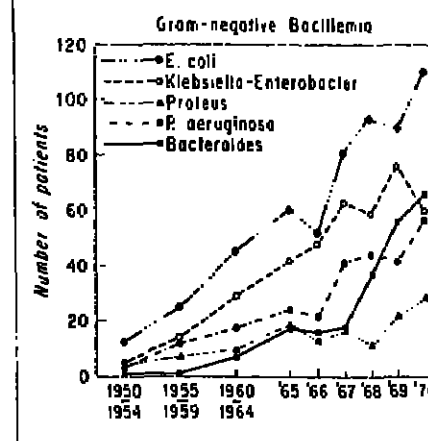
Many strains of *B. fragilis* are resistant to tetracycline, lincomycin, and erythromycin and to penicillins, cephalosporins, aminoglycosides, and polymyxins, Dr. Goodman noted. However, the probability of a mixed infection should be considered, and for this reason he believes that a regimen containing an antibacteroides agent plus penicillin or an aminoglycoside may be appropriate.

Anaerobic Bacteremias Believed To Be Recognized More Often

From Mayo Clinic

► At the Mayo Clinic, the frequency of recognition of anaerobic bacteremias has increased significantly over the last two decades—with a particularly noticeable rise in the past four years.

Dr. John A. Washington II, of the Department of Laboratory Medicine, re-



Gram-negative bacillemia at Mayo Clinic.

ported that bacteremias due to members of the family Bacteroidaceae accounted for less than 3 per cent of the total number of bacteremia cases seen at the clinic from 1950 through 1959.

For the years 1960-64 the incidence rose to 6.3 per cent, and from then on the proportion of anaerobic bacteremias in the entire group of bacteremia cases has continued to climb.

A change in blood culture media, made in 1968, brought a doubling of the previous year's figure, and by 1970 the incidence of "Bacteroides bacteremia" reached 19.5 per cent, ranking second only to the incidence of bacteremia due to *Escherichia coli*.

This increasing frequency deserves wide recognition, Dr. Washington said. The gradual emergence of *Pseudomonas aeruginosa* as a frequent cause of bacteremia has been generally recognized, he pointed out, and one result has been the current use of gentamicin with or without carbenicillin in treatment of patients suspected of having gram-negative bacillemia.

Yet such a regimen is unlikely to produce a favorable clinical response if the bacteremia is caused by an anaerobe, Dr. Washington commented. His laboratory studies have shown that gentamicin has only "limited activity" in vitro against most strains of anaerobic bacteria and that penicillin is ineffective against *B. fragilis*—the organisms most frequently responsible for anaerobic bacteremia.

Of 67 patients with clinically significant bacteremia recently observed at the Mayo Clinic, more than three-fourths had cultures positive for *B. fragilis*.

"Our current recommendations for initial therapy of presumed gram-negative bacillemia would include intravenous administration of chloramphenicol or clindamycin in addition to gentamicin parenterally," Dr. Washington said.

He suggested that penicillin given intravenously may be added to this regimen since polymicrobial bacteremia occurs in a sizable percentage of patients and penicillin inhibits all strains of gram-positive anaerobic bacteria (exclusive of anaerobic gram-positive non-spore-forming bacilli, which are rarely of clinical significance).

Therapy may be modified once organisms have been identified and the patient's clinical response has been assessed, Dr. Washington said.

Cocautors of the report were William Jeffery Martin, Ph.D., and Dr. Paul E. Hermans.

Quota on Students Asked Medical Tribune World Service

SYDNEY, AUSTRALIA—The Australian Association of Surgeons is demanding a restrictive quota on the admission of women at the two New South Wales medical schools.

It proposes to reduce by one-half the present female enrollment level of 40 per cent, which it contends is contributing to the shortage of physicians.

pression are the things to avoid, not milk, eggs, cheese, and bacon?
W. C. ELLERBROEK, M.D.
Sunset Beach, Ca



Reviewing pre- and postoperative leg fracture x-rays is Dr. John Border, of E. J. Meyer Memorial Hospital in Buffalo, N.Y. Trauma researchers are investigating the sequential organ and metabolic failures following trauma and the properties of glucagon, a hormone that apparently improves blood flow to organs without an increase in cardiac output. Chief investigator at the Buffalo facility is Dr. G. Worthington Schenk.



The research team at the University of California at San Francisco, led by Dr. William Blaisdell, is attacking many different aspects of trauma. Studies are directed toward wound healing, blood-clotting, the measurement of cerebral function, and use of fresh and stored blood in transfusions.



The posttrauma alterations of defense mechanisms and infections laid to the abnormality of the antibacterial function of the circulating neutrophils are being studied at Trauma Research Center at Cincinnati General Hospital. Dr. William Altemeler is the principal investigator.



Trauma researchers at University Hospital in Boston have devised two new methods for measuring cardiac output and are now able to take direct measurements of insulin secretion. At left, chief investigator Dr. Richard Egdahl with a blood gas measuring device. Dr. G. Thomas Shires, above, principal investigator of the Trauma Research Center at the University of Texas Southwestern Medical School, Parkland Memorial Hospital, Dallas, directs his research team's studies into the measurement of the various cellular, renal, metabolic, and hemodynamic responses to injury.

Trauma, 'Least Funded' Health Problem, Comes In for Some Intensive Study

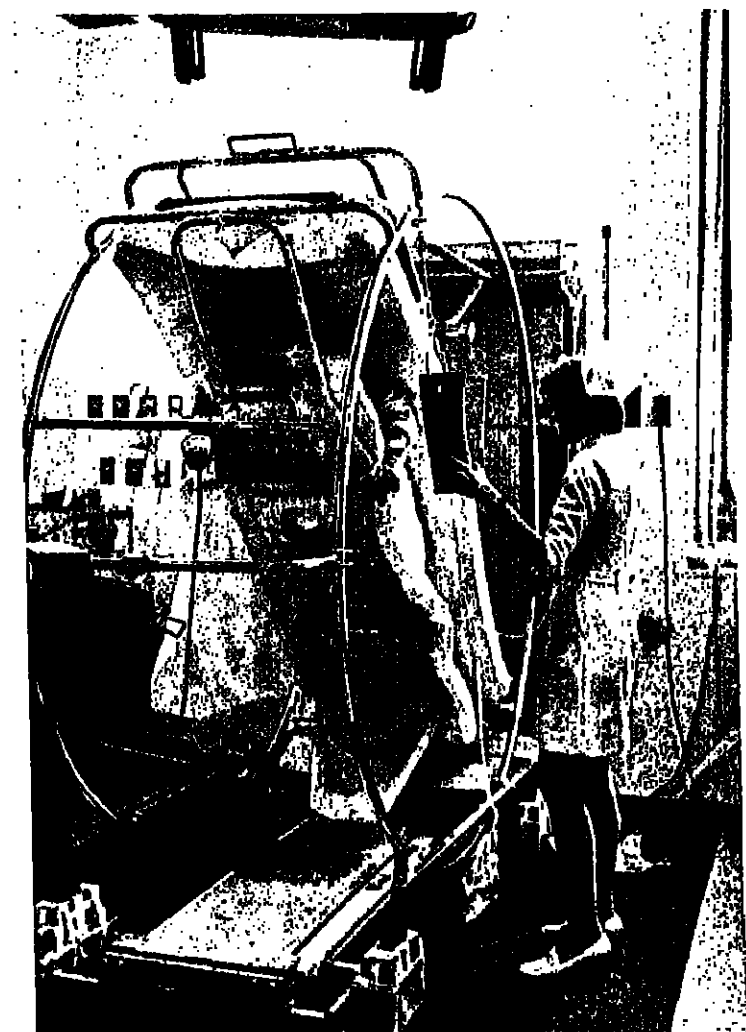
TRAUMA, recently called by one of the "least funded" of the major health problems (MEDICAL TRIBUNE, November 15), has been most totally neglected by society even though, according to the National Research Council, it is the fourth leading cause of death in all age groups. A National Institute of General Medical Sciences meeting held in 1966 brought together a number of physicians and surgeons for discussion on the trauma problem. The result was the development of a program in which research funds could be utilized in trauma studies

with a goal of reducing mortality and the disabilities of injured patients.

Today the NIGMS, a component of the National Institutes of Health, supports eight centers and 28 individual projects devoted to trauma research. Each center is a laboratory where clinical research in the study of trauma-related complications can be performed without interfering in the resuscitation of the patient, also providing opportunities for teaching and training programs for physicians, nurses, and paramedical staffs.



The University of Mississippi Medical Center in Jackson is the location of the Trauma Center specializing in the treatment of burns. The focus is on energy metabolism in burn victims and preventing infections. Staff members (l. to r.) Drs. William Neely, Antony Peira, James Hardy (principal investigator), and Don Turner discuss plans.



Staff at the Trauma Research Center in New York's Columbia-Presbyterian Medical Center, led by principal investigator Dr. John M. Kinney, is studying the wound repair process, dietary and exercise regimens for convalescence, and aspects of metabolic change in posttrauma recovery. Above, Carolyn Emig, R.N., operates special circle bed installed in the center.



Dr. Samuel Powers, principal investigator at the Albany Medical Center's trauma facility, measures patient's lung volume. Research at the Albany center is being focused on the study of posttraumatic respiratory distress syndrome and other causes of death after a successful resuscitation has been performed.

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Warnings: Use with caution in severe renal disease, in patients with renal disease, thiazides may precipitate azotemia. Cumulative effects of the drug may develop in patients with impaired renal function.

Thiazides should be used with caution in patients with impaired hepatic function or progressive liver disease, since minor alterations of fluid and electrolyte imbalance may precipitate hepatic coma.

Thiazides may be additive or potentiative of the action of other antihypertensive drugs. Potential occurs with ganglionic or peripheral adrenergic blocking drugs.

Sensitivity reactions may occur in patients with a history of allergy or bronchial asthma. The possibility of exacerbation or activation of systemic lupus erythematosus has been reported.

Usage in Pregnancy: Usage of thiazides in women of childbearing age requires that the potential benefits of the drug be weighed against its possible hazards to the fetus. These hazards include fetal or neonatal jaundice, thrombocytopenia, and possibly other adverse reactions which have occurred in the adult.

Nursing Mothers: Thiazides cross the placental barrier and appear in cord blood and breast milk.

Precautions: Periodic determination of serum electrolytes to detect possible electrolyte imbalance should be performed at appropriate intervals. Observe patients for clinical signs of fluid or electrolyte imbalance (hypotension, hypochloremic alkalosis, and hypokalemia). Serum and urine electrolyte determinations are particularly important when the patient is vomiting.

excessively or receiving parenteral fluids. Medication such as digitalis may also influence serum electrolytes. Warning signs are dryness of mouth, thirst, weakness, lethargy, drowsiness, restlessness, muscle pains or cramps, muscular rigidity, hypotension, oliguria, tachycardia, and gastrointestinal disturbance such as nausea or vomiting.

Hypokalemia may develop with thiazides as with any other potent diuretic, especially during brisk diuresis, when severe cirrhosis is present, or during concomitant administration of steroids or ACTH. Interference with adequate oral intake of electrolytes will also contribute to hypokalemia. Digitalis therapy may exaggerate metabolic effects of hypokalemia especially with reference to myocardial activity.

Any chloride deficit is generally mild and usually does not require specific treatment except under extraordinary circumstances (as in liver disease or renal disease). Dilutional hyponatremia may occur in edematous patients in hot weather; appropriate therapy is water restriction, rather than administration of salt, except in rare instances when the hyponatremia is life-threatening. In actual salt depletion, appropriate replacement is the therapy of choice.

Transient elevations in plasma calcium may occur in patients receiving thiazides, particularly in those with hyperparathyroidism. Pathological changes in the parathyroid gland have been reported in a few patients on prolonged thiazide therapy.

Hypertension may occur or frank gout may be precipitated in certain patients. Insulin requirements in diabetic patients may be increased, decreased, or unchanged. Latent diabetes may become manifest during thiazide administration. Thiazide drugs may increase the responsiveness to tubocurarine. The antihypertensive effects of the drug may be enhanced in the post-sympathetic patient. Thiazides may decrease arterial responsiveness to norepinephrine. This is not sufficient to preclude effectiveness of the pressor agent for therapeutic use.

If nitrogen retention indicates onset of progressive renal impairment, consider withholding or discontinuing diuretic therapy. Thiazides may decrease serum PBI levels without signs of thyroid disturbance.

Adverse Reactions: Gastrointestinal—nausea, diarrhea, constipation, jaundice (intrahepatic cholestatic), pancreatitis, Central Nervous System—dizziness, vertigo, paresthesias, headache, xanthopsia. Dermatologic—hypersensitivity—pruritus, photosensitivity, rash, urticaria, necrotizing angitis, Stevens-Johnson syndrome, and other hypersensitivity reactions. Hematologic—aplastic anemia. Cardiovascular—orthostatic hypotension may occur and may be potentiated by alcohol, barbiturates, or narcotics. Other—muscle spasm, weakness, restlessness. Whenever adverse reactions are moderate or severe, reduce dosage or withdraw therapy.

Dosage: Individualize dosage by titrating for maximum therapeutic response at the lowest possible dose.

Hypertension Initial—Usual dose 75 mg daily. Maintenance—After a week dosage may be adjusted downward to as little as 25 mg or upward to as much as 100 mg daily. Combined therapy—When necessary, other antihypertensives may be added gradually and with caution because of the potentiating effect of this drug. Dosages of ganglionic blockers should be halved. Edema: Initial—25 to 200 mg daily for several days. Maintenance—25 to 100 mg daily or intermittently. Rheumatic patients may require up to 200 mg daily.

Supplied: Tablets, 50 mg (yellow, scored) and 25 mg (pink, scored); bottles of 100, 1000 and 5000.

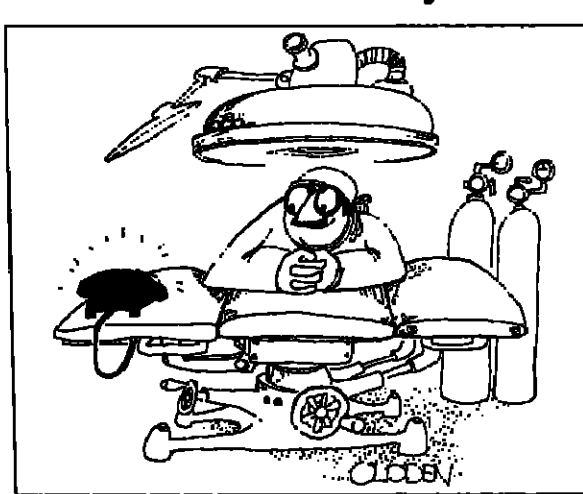
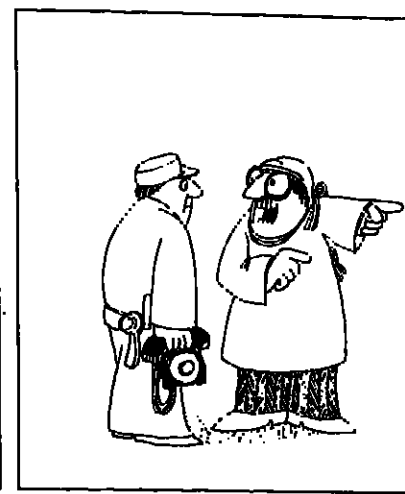
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C I B A

Clinical Trials



THE RYAN-LEUNG-BRIEN

The following reports were presented at the fourth annual meeting of the Scandinavian Migraine Society in Helsinki.

Vegetative Index Slowed

Certain neurovegetative indices of the aging process are apparently "slowed down" in persons apt to suffer migraine headaches, according to Dr. Ilmar A. Sulg, of the laboratory of clinical neurophysiology, Helsingborg Hospital, Sweden.

It has been routine in his lab for the past 10 years to make a complementary polygraphic monitoring parallel to the EEG recording, the parameters including cardiostachography, respiration, and eye movements. So far, about 14,000 examinations have been performed, he said.

"Among other phenomena," he said, "the respiratory arrhythmia reflected expressively in the cardiostachograms has shown an interesting relationship to migrainous headache."

Generally, respiratory arrhythmia is inversely proportional to age, he said; the higher the age, the less pronounced the respiratory arrhythmia. Thus, the respiratory arrhythmia can be used as a vegetative index for aging. In patients with migraine, however, the juvenile type of respiratory arrhythmia persists considerably longer than in the bulk of other adults, Dr. Sulg said.

Combination for Migraine

The most effective treatment of an acute attack of classic, or common, migraine is a small dose of ergotamine tartrate (0.25 mg, intramuscularly) combined with an antiemetic and an analgesic, it was found in experience with more than 1,000 British patients.

Dr. Marcia Wilkinson, of the London City Migraine Clinic, said that trials were made of several substances, including clonidine and MY 25 (1-methylergotamine tartrate), a prophylactic drug that has a bivalent vascular activity and is a serotonin antagonist.

Because it had been suggested that absorption of drugs taken by mouth might be delayed during an acute attack, Dr. Wilkinson and her colleagues used, and found effective, effervescent drugs.

Clonidine Is Preventive

Favorable results with clonidine in the prevention of migraine were reported by Dr. Heikki Hakkarainen, of the University of Oulu, Finland.

He described a double-blind study of 50 patients with classic, or common, migraine who were given tablets containing 25 micrograms of clonidine or a placebo three times daily for one month. Half the patients received clonidine first and the other half the placebo first.

Dr. Hakkarainen found that 22 (44 per cent) of the patients receiving clonidine experienced a reduction in the number of migraine attacks, as did 13 (26 per cent) of those on placebo.

In 19 patients, attacks were shortened during clonidine treatment, and in seven on placebo.

In 18, headache intensity during attacks

was less severe with clonidine than before the trial on placebo. Side effects were reported by eight patients on clonidine and eight on placebo.

Propranolol Tested

Propranolol had a significantly better effect on the treatment of migraine than placebo, Dr. T. E. Wideroe, Central Hospital, Trondheim, Norway, said in reporting on a double-blind crossover study.

In 21 of the 26 patients who finished the

study there was a significantly better effect from propranolol than from placebo, he said. Five patients continued to have an excellent effect in the placebo period.

Pizotifen Called Valuable

BC-105 (pizotifen) is a valuable drug in the treatment of migraine, provided the patient does not subsequently gain weight, said Dr. Poul Gertz Andersson of Brand, Denmark.

His study covered 73 patients suffer-

ing from classic, or common, migraine. Thirteen of them discontinued treatment because of side effects and 11 were omitted for other reasons. A double-blind technique was employed, and the treatment period for each drug was three months.

The frequency of attack was reduced from 5.9 per month to 3.5 for patients treated with BC-105 and 4.1 for patients treated with methysergide. Reductions in the migraine index of 55 per cent and 43 per cent, respectively, were noted.

They may be pimples to you... but they're mountains to her.

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BETADINE SURGICAL SKIN CLEANSER helps prevent infection.

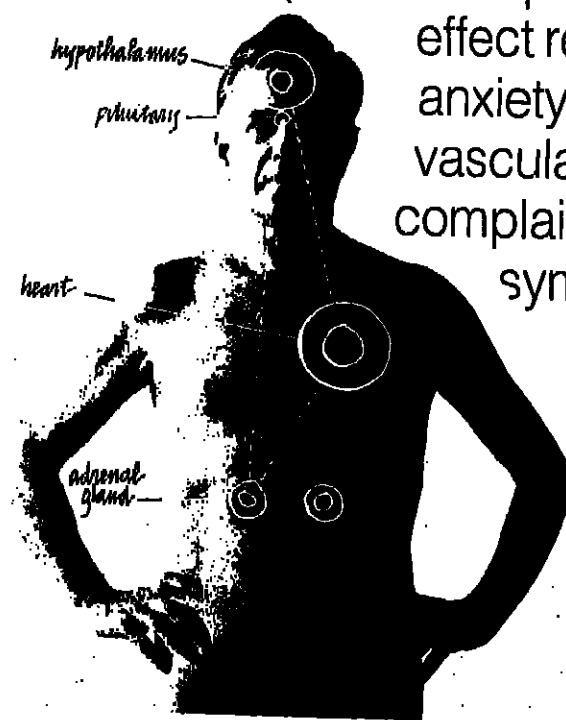


Excessive anxiety in the hypertensive patient...

The Somatic Protest

Intense emotional experiences, such as excessive anxiety or apprehension, frequently aggravate somatic symptoms in the patient with essential hypertension. They can initiate a succession of complex neurohormonal events, resulting in an increased release of corticoids and catecholamines into the blood stream. This is believed to trigger specific cardiovascular reactions, including elevation of blood pressure in susceptible patients.

Whenever excessive, deleterious anxiety is prominent in the clinical profile, consider — in addition to primary therapy — use of Librium (chlordiazepoxide HCl) to



effect reduction of anxiety-linked cardiovascular functional complaints or organic symptoms.

Before prescribing, please consult complete product information, a summary of which follows:

Indications: Relief of anxiety and tension occurring alone or accompanying various disease states.

Contraindications: Patients with known hypersensitivity to the drug.

Warnings: Caution patients about possible combined effects with alcohol and other CNS depressants. As with all CNS-acting drugs, caution patients against hazardous occupations

requiring complete mental alertness (e.g., operating machinery, driving). Though physical and psychological dependence have rarely been reported on recommended doses, use caution in administering to addiction-prone individuals or those who might increase dosage; withdrawal symptoms (including convulsions), following discontinuation of the drug and similar to those seen with barbiturates, have been reported. Use of any drug in pregnancy, lactation, or in women of childbearing age requires that its potential benefits be weighed against its possible hazards.

Precautions: In the elderly and debilitated, and

in children over six, limit to smallest effective dosage (initially 10 mg or less per day) to preclude ataxia or oversedation, increasing gradually as needed and tolerated. Not recommended in children under six. Though generally not recommended, if combination therapy with other psychotropics seems indicated, carefully consider individual pharmacologic effects, particularly in use of potentiating drugs such as MAO inhibitors and phenothiazines. Observe usual precautions in presence of impaired renal or hepatic function. Paradoxical reactions (e.g., excitement, stimulation and acute rage) have

been reported in psychiatric patients and hyperactive aggressive children. Employ usual precautions in treatment of anxiety states with evidence of impending depression; suicidal tendencies may be present and protective measures necessary. Variable effects on blood coagulation have been reported very rarely in patients receiving the drug and oral anticoagulants; causal relationship has not been established clinically.

Adverse Reactions: Drowsiness, ataxia and confusion may occur, especially in the elderly and debilitated. These are reversible in most

instances by proper dosage adjustment, but are also occasionally observed at the lower dosage ranges. In a few instances syncope has been reported. Also encountered are isolated instances of skin eruptions, edema, minor menstrual irregularities, nausea and constipation, extrapyramidal symptoms, increased and decreased libido — all infrequent and generally controlled with dosage reduction; changes in EEG patterns (low-voltage fast activity) may appear during and after treatment; blood dyscrasias (including agranulocytosis), jaundice and hepatic dysfunction have been reported occasionally, making

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Good Stability Of Ankle Given By Pin Fixation

Medical Tribune Report

SAN FRANCISCO—The use of vertical trans-articular pin fixation for severe ankle injuries "provides efficient and dependable stabilization of the ankle and subtalar joints," according to a Jamestown, N.Y., orthopedic surgeon, and "in particular the procedure is recommended in treating unstable ankle fractures in geriatric patients combined with closed reduction and plaster cast immobilization."

Dr. Harold M. Childress said here that his experience with 59 consecutive cases, aged 12-81, with 16 over 65, demonstrated that the procedure is "moderately simple in application," requires no skin incision, and causes "no complications."

Cartilaginous Degeneration Absent

"Of considerable importance," he observed, "was the absence of demonstrable localized cartilaginous degeneration, clinically or roentgenographically, at the site of pin penetration of the joint's articular surfaces," despite the fact that "a basic orthopedic principle is violated by pin penetration of the cartilaginous surfaces of a weight-bearing articulation."

"No bending, migration, or breaking of the pin and, consequently, no loss of reduction while the pin was in situ" were noted either, Dr. Childress said, and "no infections and no painful heels upon later



Oblique view of a compound fracture illustrates fragmented medial malleolus.

weight bearing" were revealed in study. The low risk of soft-tissue or bone infection makes the method applicable "when local skin trauma or severe associated injuries elsewhere make open reduction at the ankle inadvisable," he remarked.

The vertical transarticular pin fixation procedure, formerly "designated as a treatment of last resort," Dr. Childress reported, is now indicated in:

- Displaced ankle fractures in geriatric patients with other physical disabilities, relatively short life expectancy, and limited future weight bearing.
- Complete ruptures of deltoid ligament, simple or compound, that cannot be adequately sutured.



Lateral view of same ankle showing dislocation in a 67-year-old male patient.

- Ankle fracture-dislocations that remain unstable after screw fixation of the medial malleolus.
- Ankle injuries of unusual severity in which amputation would ordinarily be considered.
- Many fracture-dislocations only in the talus.

Occasional severe fractures at the distal tibial shaft when the patient has other injuries or condition of soft tissue or comminution of bone that makes orthodox treatment unavailable.

The most frequent type of injury requiring pin fixation, Dr. Childress said, was "displaced bi- or tri-malleolar fractures."

The vertical pin fixation procedure outlined by Dr. Childress consists of the per-



Seven-eighths-inch vertical pin was employed with a below-knee plaster cast.

cutaneous "drilling, rather than driving," of one 7/64-inch Steinmann pin, guided by a small wire, upward through the calcaneus and talus and across the ankle joint into the distal tibia. The pin, he said, is cut off, leaving a 1-inch protrusion from the sole of the foot, and a below-knee plaster cast is applied that does not incorporate the pin.

The treatment, he reported, requires anesthesia for only a few minutes and achieves "immediate and reliable fixation of the ankle or distal part of the tibia." No displacement in the plaster cast can occur when the pin is in place, he noted, and the pin can be removed "without altering the plaster cast, which may be left on for further immobilization."

Health Peril Seen in Use of Titanium Dioxide for Dyeing

Medical Tribune World Service

Helsinki—The growing use of titanium dioxide in dyeing processes has brought a new health risk to workers, a Finnish pathologist reported here.

Dr. Kari Maatta, of the Central Hospital of Satakunta, Pori, described lung specimens from three factory workers employed under dusty conditions for periods up to 10 years in processing titanium dioxide pigments. In two cases, specimens were taken at open thoracotomy; in the third, at autopsy.

During several years, the patients had had recurrent episodes of bronchitis—up to 10 a year. Gradually, the symptoms, such as dyspnea, increased in severity and the workers had to leave their jobs. Significantly higher levels of titanium were found in their lungs than in specimens from a general autopsy population, Dr. Maatta told the ninth international congress of the International Academy of Pathology.

The patients' lungs were found by light microscopy to have patches of carbonlike but green pigment throughout their surfaces, he reported. In electron microscope preparations, alveolar epithelial cells appeared to have normal fine structural features.

In recent years, titanium dioxide has become an important raw material in the dye industry, Dr. Maatta commented, but little is yet known about the metabolism and biologic importance of titanium, and the mechanism of titanium dioxide irritation remains unknown.

"It is evident," he said, "on the basis of our present results, that industrially processed titanium dioxide pigments, which in addition contain in their coating material small amounts of other elements, cannot be regarded as an entirely inert and harmless substance to the persons who are in daily contact with it."

Genetics May Play Large Role In Nasopharyngeal Cancer

From WHO Singapore Unit

Follow-ups of migrant Chinese strengthen the theory that genetic factors play a major role in the development of nasopharyngeal carcinoma, according to Dr. M. J. Simons, of the World Health Organization Immunology Research and

Training Center at the University of Singapore.

Chinese have a higher incidence than any other ethnic group for whom cancer registration data are available, and the rate appears to be maintained in migrant Chinese living in Austria and Hawaii, as well as in Hong Kong and Singapore, Dr. Simons said.

The incidence differs among Chinese of different dialect groups, he noted. It is highest in Cantonese and lowest in Hokkien.

"Environmental factors have not been identified either in Singapore or in Hong Kong to which these features of nasopharyngeal carcinoma can be attributed," he observed.

Greater Protection of Test Subjects Asked

Medical Tribune Report

CHARLOTTESVILLE, VA.—Dr. Robert Q. Marston, director of the National Institutes of Health, called here for measures to strengthen the protection of patients participating in clinical trials.

At the same time, he declared that there can be no progress against disease without experimentation using human subjects.

"There is immorality," he said, "in not carrying out necessary research involving human subjects."

Dr. Marston observed that research with human subjects is necessary because there may not be a suitable animal model for a particular disease; because, even where animal experimentation is possible, there is a point where tests must be carried out in man; and because the experimental method is the only way to test procedures and therapies that are already in use.

In an address at the dedication ceremonies for the McLeod Nursing Education Building and the Jordan Medical Education Building at the University of Virginia Medical Center, Dr. Marston said that stronger safeguards are especially desirable under conditions where informed consent is difficult to obtain.

"Good science and high standards of ethics are closely linked," he remarked. "Indeed, the presence of risk places a special demand on us that only the highest quality of research be tolerated."

He proposed new regulations covering

Low Resistance to Infections Is Related to Malnutrition

From AFIP, Washington

Links between malnutrition and weakened resistance to infections were emphasized in findings that were reported at the congress.

They indicate that anatomical lymphocytopenia is probably a manifestation of atrophic tissues. They also support a previous finding that atrophy of the thymolymphatic system in malnourished patients may result in depression of the host's cell-mediated immunity to infections.

Dr. David T. Puri, of the Geographic Pathology Division, Infectious Diseases Branch, Armed Forces Institute of Pathol-

ogy, Washington, D.C., studied 10 autopsied cases of kwashiorkor in the Geographic Pathology Registry to determine whether atrophy of the thymolymphatic system was related to infections.

All subjects had one or more infections, and, in three, an infection was the direct cause of death. Four patients died of acute bronchopneumonia. Seven of the 10 also had evidence of parasitism—malaria in six and intestinal nematodes in four.

Macro- and microscopic study revealed marked atrophy of the thymus and thymus-dependent lymphoid tissue in the lymph nodes and spleen. Lowest lymphocyte counts were seen in subjects with the severest atrophy of lymphoid organs.

of significant benefits to humanity for those research studies in which participants are exposed to significant risks when they themselves do not have a reasonable chance of benefiting from the experiments.

Psychotherapeutics To Be Panel's Topic

Medical Tribune Report

NEW YORK—"Recent Advances in Psychotherapeutic Drugs" will be the theme of a two-hour afternoon symposium originating here and in London on January 17 under the sponsorship of the American Psychiatric Association and the Royal College of Psychiatrists. Dr. Leo E. Hollister, of Stanford University, will be chairman.

Presentations by two panels of experts on psychopharmacology and psychiatry will be broadcast, beginning at noon (EST), on closed-circuit television via Telstar satellite to professional audiences in 10 U.S. cities. The seminar was made possible by a grant from Squibb Hospital Division, E. R. Squibb & Sons, Inc.

Topics will include anti-anxiety, antidepressant, neuroleptic, and long-acting neuroleptic drugs, community aspects of psychopharmacology, lithium in affective disorders, tardive dyskinesias; impact of drugs on psychiatric practice, and the use of various combinations of psychotropic drugs.

Raising Stomach pH Cuts Upper GI Bleeding

Medical Tribune Report

BOSTON—A simple but effective way to control stress-induced upper gastrointestinal hemorrhage by raising the pH of the stomach contents to 7 has been demonstrated by physicians at Boston City Hospital. In 23 of 25 patients, bleeding was stopped and recovery was uneventful, Dr. Lon E. Curtis told the New England Surgical Society.

Over the years, a great variety of methods have been developed to deal with massive upper GI hemorrhaging, but none are particularly successful and the death rate is about 80 per cent, Dr. Curtis noted. When, in October, 1971, stress hemorrhaging occurred in a patient with ulcerohemorrhagic and pancreatitis who had just undergone a vagotomy and a procedure for an obstructing duodenal ulcer, Dr. Curtis decided to try to treat it with large amounts of antacid, a technique used occasionally by Dr. John Skillman, of Beth Israel Hospital here.

Dr. Skillman's method raised the pH of

the patient's intragastric contents to 5. Dr. Curtis discovered, however, that bleeding did not stop and remain stopped until the pH reached 7.

Massive Bleeding Managed

In the 12 months following, massive bleeding in 25 patients on the Tufts surgical service at the hospital was managed in this fashion. Of the two who continued to bleed, one had a pulmonary embolus, and then developed massive gangrene of the small bowel and underwent an 80 per cent small-bowel resection. This patient eventually died of sepsis and pulmonary failure.

In the other case, it proved impossible to raise the pH above 4.5. The patient was found to have a duodenal ulcer, was treated surgically, and survived.

"It would appear that a pH of 7 is necessary," Dr. Curtis told the meeting, "since in another two patients, the bleeding stopped when their pH reached 7, but they

began to hemorrhage again when their pH was allowed to drift back to 5.

"When we returned their intragastric pH to 7, the hemorrhaging again ceased. We found it is necessary to measure the pH and give additional antacid hourly rather than at longer intervals, since acidity increases markedly after an hour."

In 20 of the 25 cases in this series, Dr. Curtis noted, the hemorrhaging was diagnosed as due to stress. Patients' ages ranged from 14 to 87 years. Of the 23 in whom bleeding was arrested, nine died.

One of the most useful aspects of this treatment, Dr. Curtis pointed out, is that it can be administered by a nurse. A nasogastric tube is placed in the stomach and the contents are thoroughly aspirated. The pH is measured, using Nitrazine paper, and recorded. Sixty cc. of antacid is instilled; after allowing it to mix for 15 minutes, the stomach is aspirated and pH checked again. An additional 60 cc. of antacid is administered, and the procedure

is continued until a pH of 7 is reached.

From this point on, the pH is checked every hour by aspirating the stomach completely and titrating the total amount of antacid added to hold the pH at 7.

"It is important to caution the nurses to empty the stomach as completely as possible before adding the antacid, and to administer it only by gravity drainage," Dr. Curtis said.

Coauthors were Drs. S. Simonian, C. A. Buck, E. F. Hirsch, and Harry Soroff.

Detroit Health Unit Given Grant to Treat Drug Addicts

DETROIT—The Detroit Health Department has been awarded a \$1,417,175 grant for a drug-treatment program that offers a variety of treatment methods under one central administration.

Called the Detroit Hospital Drug Treatment Program, it will offer Detroit addicts of all ages detoxification, long-term treatment, outpatient health care, and institutional care. Funds will come from the National Institute of Mental Health.

In acute, recurrent or chronic nonobstructed cystitis

THREE OTHER BUILT-IN BENEFITS OF GANTRISIN sulfisoxazole/Roche

3. High solubility at average urinary pH
Gantrisin's unusual solubility is the main reason for its relatively low toxicity. In both free and acetylated forms, it is highly soluble at urinary pH values of 6.5 to 6.8, so there is no need for prophylactic alkali therapy.

4. Rapid absorption
Gantrisin reaches its sites of action quickly. Measurable levels of the drug have been found in blood and urine within 60 minutes; in 2 to 3 hours, therapeutic levels usually have been reached.

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Gantrisin's rapid excretion rate is another reason why it is generally well tolerated. Over 60% of a single oral dose is excreted in 8 hours; over 90% in 24 to 48 hours, so there is little risk of hematuria or crystalluria, and urine is safe. As with all sulfonamides, adequate fluid intake must be maintained. Complete blood counts and urinalyses, with careful microscopic examination, should be performed frequently.

For nonobstructed cystitis due to *E. coli* and other susceptible organisms

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Before prescribing, please consult complete product information, a summary of which follows:

Indications: Nonobstructed urinary tract infections (bacterial cystitis, pyelitis, pyelonephritis) due to susceptible organisms. Important Note: *In vitro* sensitivity tests not always reliable; must be coordinated with bacteriological and clinical response. Add aminobenzoic acid to follow-up culture media. Increasing frequency of resistant organisms limits usefulness of antibacterial agents, especially in chronic and recurrent urinary infections. Maximum safe total sulfonamide blood level: 20 mg/100 ml; measure levels as variations may occur.

Contraindications: Hypersensitivity to sulfonamides, infants less than 2 months of age, pregnancy at term and during the nursing period.

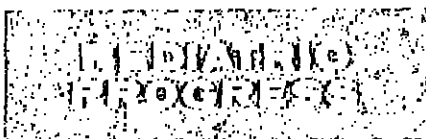
Warnings: Safety in pregnancy not established. Do not use for group A beta-hemolytic streptococcal infections, as sequelae (rheumatic fever, glomerulonephritis) are not prevented. Deaths reported from hypersensitivity reactions: agranulocytosis, aplastic anemia and other blood dyscrasias. Sore throat, fever, pallor, purpura or jaundice may be early indications of serious blood disorders. CBC and urinalysis with careful microscopic examination should be performed frequently.

Precautions: Use cautiously in patients with impaired renal or hepatic function; severe allergy or bronchial asthma. Hemolysis frequently dose-related; may occur in glucose-6-phosphate dehydrogenase-deficient patients. Maintain adequate fluid intake to prevent crystalluria and stone formation.

Adverse Reactions: Blood dyscrasias: Agranulocytosis, aplastic anemia, thrombocytopenia, leukopenia, hemolytic anemia, purpura, hypoprothrombinemia and methemoglobinemia. Allergic reactions: Erythema multiforme (Stevens-Johnson syndrome), generalized skin eruptions, epidermal necrolysis, urticaria, serum sickness, pruritus, exfoliative dermatitis, anaphylactic reactions, paronychia, callosities, conjunctivitis and blepharitis, photodermatitis, arthralgia and allergic myositis. Gastrointestinal tract: Nausea, vomiting, abdominal pain, hepatic dysfunction, anorexia, pancreatitis and stomatitis. CNS reactions: Headache, peripheral neuropathy, depression, convulsions, ataxia, hallucinations, tremor, vertigo, and insomnia. Thymic and thymus reactions: Thymic atrophy and hypoplasia with atrophy and involution. Prolonged treatment with Gantrisin may cause a decrease in the number of lymphocytes and a decrease in the number of lymphocytes with atrophy and involution. Prolonged treatment with Gantrisin may cause a decrease in the number of lymphocytes and a decrease in the number of lymphocytes with atrophy and involution.

Supplied: Tablets containing 0.5 Gm. sulfisoxazole.

ROCHE



The following reports are from papers presented at the meeting of the American Academy of Pediatrics, held in New York.

Antihistamines Evaluated

In a double-blind study using 18 volunteer young adults, all of whom had been previously found to have significant wheal and flare reactions from inhalant allergens, five commonly used antihistamines were evaluated in terms of wheal suppression and incidence and degree of side effects, a University of Florida team reported.

Hydroxyzine was most effective in wheal size suppression, they said. It also had the highest mean score for side effects ("such as drowsiness, vertigo, irritability, disorientation, etc."), a score, however, only slightly higher than that of the least effective antihistamine.

The investigators, who were Drs. Terence J. Cook, Donald M. MacQueen, and Heinz J. Wittig and John I. Thornby, Ph.D., and Robert L. Lantos, pointed out that "there appear to be individual differences in some patients' ability to metabolize antihistamines which affect both wheal suppression and side effect scores, so that individualization of doses may be recommended to offer them relief without undue discomfort."

Preventing Regurgitation

Cricoid pressure, a maneuver consisting of "temporary occlusion of the upper end of the esophagus by backward pressure of the cricoid ring against the bodies of the cervical vertebrae," was successfully utilized for the prevention of regurgitation in pediatric patients during induction of anesthesia, according to Dr. M. Ramez Salem, of Cook County Hospital, Chicago.

It also was useful in avoiding gastric distention during bag-mask and mouth-to-mouth ventilation, he said.

Addicted Mothers' Babies

In 1960 the number of babies born to addicted mothers was one for each 164 deliveries at Metropolitan Hospital in New York. In the first half of 1972, it was one in every 40 deliveries, Dr. Edward Wasserman, of New York Medical College, reported.

Treatment with drugs is required for infants born to either heroin- or methadone-addicted mothers when these infants have either moderate or severe symptoms of withdrawal syndrome, he said, emphasizing that methadone treatment of the addicted mother "is not an effective method to prevent withdrawal symptoms in the neonate."

Chlorpromazine, diazepam, phenobarbital, and paregoric are all effective in treating the immediate signs of withdrawal, and, unless they are treated, "death may ensue."

Persistent Reflux

"We consider antireflux surgery as mandatory in the youngster presenting with cystitis cystica and persistent reflux," Dr. Richards P. Lyon of Berkeley, Calif., reported.

He cited a 1970 report by King and Kaplan in which, out of 700 children with chronic and recurrent urinary infection, 18 with cystitis cystica were treated with continuous low-dose medication and were followed for 27 months.

Although they felt the long-term prognosis was good, "they found a discouraging cure rate of close to 25 per cent."

From his own practice he described a series of 19 children who continued to reflux after a minimum of two years of medical therapy and of whom three had achieved a bacteriologic cure.

"Ureterovesical surgery carried out on all 19 followed by an average of four and a half months of low-dose therapy has led to bacteriologic cure in all but one, indicating a jump from 10 per cent to close to 90 per cent by this single definitive procedure," he said.

Intense Therapy Asked in Some Hypertensives

Continued from page 1

of others, has continued to bear out the hypothesis that hypertension is "not a homogeneous disease" and that patients exhibit "different hormonal profiles," with different risk probabilities, calling for appropriately tailored management.

In the most recent study, he reported, his group has been able to account for an apparent contradiction to their earlier findings of an association between low plasma levels and major vascular complications.

This contradiction, he said, stemmed from the well-known observation that blacks have a high proportion of hypertensives with low renin levels, while at the same time blacks are thought to be more prone to strokes, malignant hypertension, and kidney failure.

Dr. Laragh said that this "paradox" was resolved by findings in a study of 219 hypertensives, 27 per cent of whom were black. Forty-two per cent of the black hypertensives were in the low-renin group, Dr. Laragh reported, but further analysis revealed that the black patients between the ages of 20 and 40 "actually fell into the high renin-level category."

"It is in this age group that strokes,

renal failure, and malignant hypertension afflict blacks, while these devastating episodes don't occur until in later life in whites, when whites develop normal to high renin levels," Dr. Laragh observed.

The investigator stressed that the latest findings, giving support to the concept of a renin-associated risk factor in hypertension, underscored the need for "early and more vigorous treatment" of patients in this high-risk group. With further investigation, he predicted, more specific drug treatments would be developed, based on the patients' renin and aldosterone profiles.

Two Groups Identified

In an interview, Dr. Laragh disclosed that recent studies by his group have identified the existence of both "volume-dependent" and renin-dependent subgroups within the large hypertensive population traditionally grouped under the general heading of essential hypertension. [Volume-dependent hypertensives are defined as those whose blood pressure can be normalized by diuretics alone.] He suggested that a "decision tree" for antihypertensive therapy in the light of these findings can be empirically developed even though more sophisticated hormonal

analyses are not yet generally available.

In this concept, he explained, the initial therapeutic trial should be made with a diuretic agent. Those patients who do not respond may then be treated with a renin-lowering agent. This sequence would reveal a purely renin-dependent population. A third subgroup will exhibit intermediate responses to either agent alone, Dr. Laragh said, indicating that they have both volume-dependent and renin-dependent mechanisms for their hypertension. Therapy in this group should be modified accordingly, he suggested.

Coauthors in these studies were Drs. E. Darracott Vaughan, Jr., Fritz R. Buhler, Irene Gavras, Hans R. Brunner, and Leslie Baer.

The symposium was jointly sponsored by the Milton S. Hershey Medical Center of Pennsylvania State University and CIBA Pharmaceutical Company.

Israelis Turn Up Cholera

Medical Tribune World Service

JERUSALEM—The Israeli Government has begun a massive "cleanup" campaign following the report of five cases of cholera among Arab residents.

Alterations in Cell Membrane Linked to All Forms of Cancer

Medical Tribune Report

SAN DIEGO, CALIF.—All forms of cancer may result from alterations in the cell surface membrane, which usually regulates the uptake of nutrients from the bloodstream, according to a new "unifying hypothesis" of malignant growth proposed by Nobel Laureate Robert W. Holley.

Once the membrane is altered by cancer-causing agents, such as viruses, radiation, or chemicals, abnormal amounts of nutrients accumulate in the cell, inciting malignant growth, theorizes Dr. Holley, Resident Fellow at the Salk Institute, La Jolla, Calif.

"Whatever the molecular change in the membrane and whatever the mechanism that caused it, malignant growth would actually result from the increased concentration of critical nutrients inside a cell," he asserted in a brief article in *Proceedings of the National Academy of Sciences*.

The hypothesis might also explain why different types of cancer cell multiply at different rates, said Dr. Holley, suggesting that the growth rate depends on the cell's ability to take in specific nutrients.

"These variations would correspond to changes in concentrations of critical nutrients inside the cell, in all gradations from the normal limiting levels to unrestricted, maximum availability. Also, a gradual accumulation of membrane changes could lead to increasing malignancy in small gradations or abruptly."

Calling for further study of membrane structure and cellular uptake mechanisms, Dr. Holley predicted that in instances in which the level of nutrients can be manipulated it should be possible to arrest growth of malignant cells in the G₁ phase. (The G₁ phase in a cell's life cycle is especially sensitive to growth control because it occurs immediately after the cell divides but before the DNA begins to reproduce.)

The Holley theory is based on studies at Salk and elsewhere that indicate that the growth of normal and cancer cells in laboratory culture is regulated by various growth factors in the blood serum, some of which regulate uptake of low-molecular-weight nutrients. The nutrients include amino acids and trace metals.

Dr. Holley also noted that certain hor-

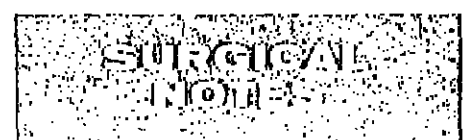
Leukemia Cells Isolated



Human leukemia cells have been isolated and induced to multiply for up to 96 hours by (L. to R.) Ming-Yu Chu, Ph.D., and Drs. Paul Calabrese and Marvin Hoovis, of Brown U. They say that various drugs can now be tested simultaneously on a patient's cells growing in separate test tubes and could result in improved treatment methods.

mones that act at the cell surface are known to control cell growth in vivo.

However the cell membrane is altered, he said, the growth factors might increase the flow of nutrients from serum to cell, increasing the growth rate of the cell to the malignant level.



The following notes are from reports presented at the 84th annual session of the Southern Surgical Association, held in Boca Raton, Fla.

Infection After Celiotomy

Incisional and peritoneal infection after emergency celiotomy demands early institution of effective intravenous antibiotics, delayed wound closure, selective use of local antibiotics in the wound, and "meticulous" isolation of all abdominal drains, which should be installed only for specific indications, according to Drs. H. Harlan Stone and T. Roderick Hester, Jr., of Emory University School of Medicine.

Reporting a study of 1,288 patients, they said that whenever the incision had been heavily contaminated, significant reductions in the incidence of wound infection were achieved by both delayed closure and by antibiotic spray preceding primary closure in comparison with primary closure alone. Failures were usually related to colostomy soiling of the open wound, hospital pathogens supplanting local wound flora, and bacterial resistance to antibiotics in the aerosol. The incidence of peritoneal abscess was cut in half when intravenous antibiotics were begun before (6 per cent) rather than after (12 per cent) operation.

Abdomen Aortic Aneurysms

Abdominal aortic aneurysms, undetected by palpation or by plain films of the abdomen, were found in 36 patients who were studied angiographically for arterial obstruction in one or both lower extremities, a team of New York physicians reported. In 29 instances, an embolus arising from a mural thrombus in the aneurysm was proved, while in seven the association was highly suspicious.

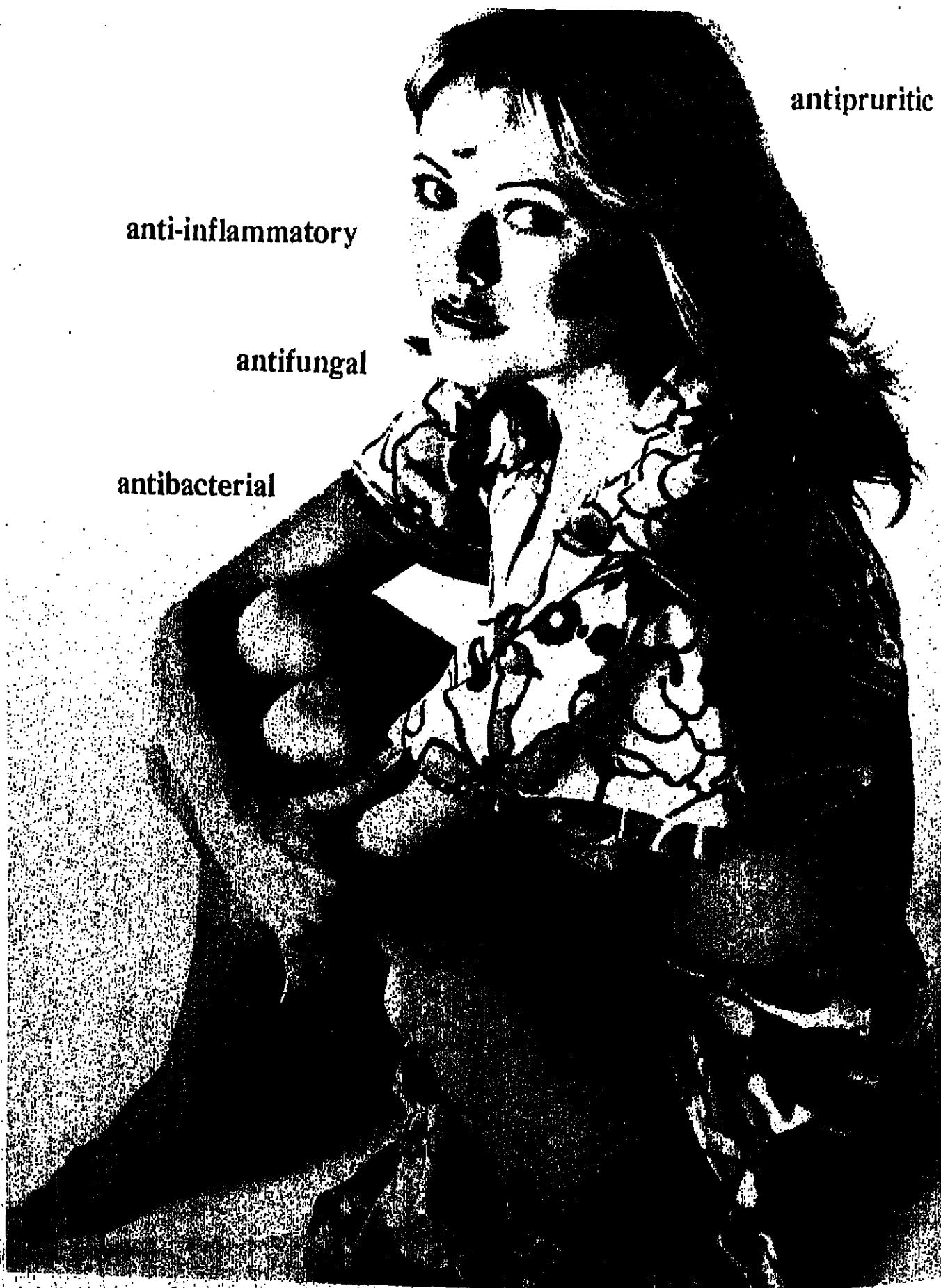
The investigators, therefore, suggested that, in all angiographic studies of the peripheral arteries of the lower extremities, complete opacification of the abdominal aorta and its branches be made and that, when an aortic aneurysm is detected, its operative correction should be the primary target and the peripheral arterial occlusive lesion may be bypassed a fortnight later. Investigators were Drs. Jero W. Lord, Jr., Giuseppe Rossi, Maurizio Dallana, Joseph R. Drago, and Albert M. Schwartz.

Extracorporeal Circulation

The use of autogenous blood transfusion in conjunction with extracorporeal circulation results in less postoperative blood loss, higher platelet counts, and a lower incidence of hepatitis than when homologous blood transfusion is employed, according to Dr. John L. Ochsner, of the Ochsner Clinic, New Orleans.

He based this conclusion on a study of 150 patients who, immediately prior to extracorporeal circulation, were bled 20 per cent of their blood volume into plastic donor bags primed with A.C.D. solution. The blood was reinfused into the patient upon completion of the extracorporeal circulation. Hematologic studies were done preoperatively, immediately after perfusion, and after retransfusion of the autogenous blood.

Coauthor was Dr. Dr. Noel L. Mills.



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INDICATIONS
Based on a review of this drug by the National Academy of Sciences-National Research Council and/or other information, FDA has classified the indications as follows:
"Possibly" effective: Contact or atopic dermatitis; impetiginized eczema; nummular eczema; infantile eczema; endogenous chronic infectious dermatitis; allergic dermatitis; pyoderma; nuclear eczema and chronic acanthosis nigricans; acne vulgaris; localized or disseminated neurodermatitis; lichen simplex chronicus; anogenital pruritus (vulva, scrotum, anal); folliculitis; bacterial dermatoses; mycotic dermatoses such as tinea (capitis, cruris, corporis, pedis); moniliales; intertrigo. Final classification of the less-than-effective indications requires further investigation.

CONTRAINDICATIONS
Hypersensitivity to Vioform-Hydrocortisone, or any of its ingredients or related compounds; lesions of the eye; tuberculosis of the skin; new viral skin lesions (including herpes simplex, varicella, and vaccinia).

WARNINGS
This product is not for ophthalmic use.
In the presence of systemic infections, appropriate systemic antimicrobials should be used.
Although topical steroids have not been reported to have an adverse effect on pregnancy, the safety of their use in pregnant females has not been established. Therefore, they should not be used extensively on pregnant patients in large amounts or for prolonged periods of time.

PRECAUTIONS
May prove irritating to sensitized skin in rare cases. If this occurs, discontinue therapy. May stain. If used under occlusive dressings or for a prolonged period, watch for signs of pituitary-adrenal axis suppression. May interfere with thyroid function tests. Wait at least one month after discontinuance of therapy before performing these tests. The ferric chloride test for phenylketonuria (PKU) can yield a false-positive result if Vioform is present in the diaper or urine. Prolonged use may result in overgrowth of non-susceptible organisms requiring appropriate therapy.

ADVERSE REACTIONS
Few reports include: Hypersensitivity, local burning, irritation, pruritus. Discontinue if untoward reaction occurs. Rarely, topical corticosteroids may cause atrophy at site of application when used for long periods in intertriginous areas.

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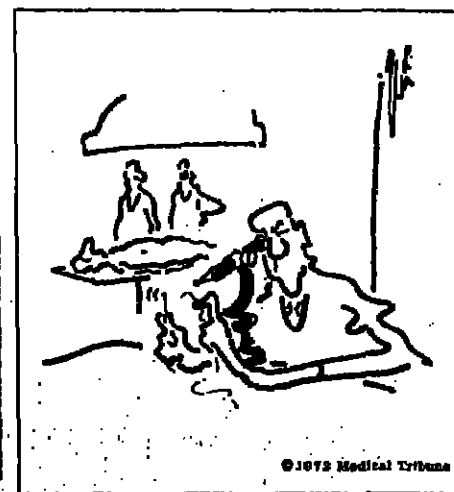
HOW SUPPLIED
Cream, 3% Iodochlorhydroxyquin and 1% hydrocortisone in a water-washable base containing stearic alcohol, spermaceti, petrolatum, sodium lauryl sulfate, and glycerin in water. Tubes of 3 and 20 gm. Ointment, 3% Iodochlorhydroxyquin and 1% hydrocortisone in a petrolatum base. Tubes of 3 and 20 gm. Lotion, 3% Iodochlorhydroxyquin and 1% hydrocortisone in a water-washable base containing stearic acid, cetyl alcohol, lanolin, propylene glycol, sorbitan trioleate, polysorbate 60, triethanolamine, methylparaben, propylparaben, and perfume. Flors in water. Plastic squeeze bottles of 16 ml. and 50 ml. Cream, 3% Iodochlorhydroxyquin and 0.5% hydrocortisone in a water-washable base containing stearic alcohol, spermaceti, petrolatum, sodium lauryl sulfate, and glycerin in water. Tubes of 3 and 20 gm. Lotion, 3% Iodochlorhydroxyquin and 0.5% hydrocortisone in a petrolatum base. Tubes of 3 and 20 gm.

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INDICATIONS

Esimil
Hypertension (other than labile forms) which cannot be adequately controlled with simpler agents; moderate to severe hypertension; sustained hypertension; almost all forms of fixed and progressive hypertension; when side effects of other antihypertensives prevent effective treatment.

Ser-Ap-Es

All cases of hypertension except the mildest and the most severe.

CONTRAINDICATIONS

Esimil
Guanethidine: Proven or suspected pheochromocytoma; hypersensitivity to guanethidine. Do not use with MAO inhibitors.

Hydrochlorothiazide: Anuria; discontinue drug if renal shutdown occurs for any reason. Progressive hepatic disease may accelerate development of hepatic coma. Do not give to patients with known allergy to thiazides or other sulfonamide-derived drugs.

Ser-Ap-Es

Reserpine: Known hypersensitivity; mental depression, especially with suicidal tendencies; active peptic ulcer; ulcerative colitis; digitalis intoxication; aortic insufficiency; electroconvulsive therapy.

Hydralazine: Hypersensitivity; coronary artery disease; mitral valvular rheumatic heart disease. **Hydrochlorothiazide:** See hydrochlorothiazide section above.

WARNINGS

Antihypertensives are potent drugs and can lead to disturbing and serious clinical problems. Physicians should be familiar with all drugs and their combinations before prescribing, and patients should be warned not to deviate from instructions.

Esimil

Guanethidine: Warn patients about the potential hazards of orthostatic hypotension, which can occur frequently. To prevent falling, patients should sit or lie down with onset of dizziness or weakness, which may be particularly bothersome during initial dosage adjustment and with postural changes. Postural hypotension is most marked in the morning and is accentuated by hot weather, alcohol, or exercise. Warn patients to avoid sudden or prolonged standing or exercise while taking guanethidine.

Concurrent use with rauwolfia derivatives may cause excessive postural hypotension, bradycardia, and mental depression.

If possible, withdraw therapy 2 weeks prior to surgery to avoid possible vascular collapse and to reduce hazards of cardiac arrest during anesthesia. If emergency surgery is indicated, administer preanesthetic and anesthetic agents cautiously in reduced dosage with oxygen, atropine, and vasopressors ready for immediate use. Give vasopressors with extreme caution because patients on guanethidine may have a greater propensity for cardiac arrhythmias. Febrile illness may reduce dosage requirements. Due to catecholamine depletion and increased responsiveness to norepinephrine, special care is required when treating patients with a history of bronchial asthma, since the condition may be aggravated.

Hydrochlorothiazide: Small bowel stenosis, with or without ulceration, has been associated with use of enteric-coated thiazides with potassium, and with enteric-coated potassium alone. These bowel lesions have caused obstruction, hemorrhage, and perforation; surgery was frequently required and deaths have occurred. Available information tends to implicate enteric-coated potassium salts. Therefore, coated potassium-containing formulations should be used only and discontinued immediately if abdominal pain, distention, nausea, vomiting, or GI bleeding occurs.

Lowering of blood pressure in hypertensive patients may sometimes result in nitrogen retention, and also result in reduced renal blood flow, particularly in those with impaired renal function. If progressive renal insufficiency is observed, discontinuance of drug may be desirable. In patients with renal disease, thiazides may precipitate azotemia. Cumulative effects may develop in those with impaired renal function. Dosage should always be carefully titrated. Pay special attention to electrolyte balance of patients with chronic and acute renal disease. Symptoms of impending hepatic coma (confusion, drowsiness, tremor) and test for increased arterial ammonia concentration, albumin and coagulability. Thiazides may decrease glucose tolerance. Use cautiously in patients with diabetes. Hyperuricemia may occur but is generally reversed by a uricosuric agent. Thiazides may decrease arterial responsiveness to norepinephrine and increase responsiveness to tubocurarine. It is possible, without therapy, 2 weeks prior to surgery, that anesthetic episodes under anesthesia have been observed. If emergency surgery is indicated, preanesthetic and anesthetic agents should be administered in reduced dosage.

The possibility of sensitivity reactions should be considered in patients with a history of allergy or bronchial asthma.

Ser-Ap-Es

Reserpine: Discontinue at first sign of depression, since mental depression (which may be severe enough to result in suicide) can occur with reserpine and may persist for several weeks after drug withdrawal. Use with extreme caution in those with a history of depression.

Discontinue reserpine for 2 weeks before giving electroconvulsive therapy. MAO inhibitors should be avoided or used with extreme caution. **Hydralazine:** Hydralazine, particularly if given daily for prolonged periods, particularly if given in doses over 400 mg, may produce an arthritis-like syndrome leading to a clinical picture simulating acute systemic lupus erythematosus. In rare instances, this may occur at lower doses. Most of these reactions are reversible upon withdrawal of therapy, but long-term treatment with steroids may be necessary. An L.E. cell preparation is indicated in the presence of any unexplained

of the physician, its use is deemed essential to the welfare of the patient. Reserpine crosses the placental barrier and appears in breast milk.

Hydrochlorothiazide: See hydrochlorothiazide section above.

Usage in Pregnancy

Esimil

Guanethidine: The safety of guanethidine for use in pregnancy has not been established; therefore, this drug should be used only when, in the judgment of the physician, its use is deemed essential to the welfare of the patient.

Hydrochlorothiazide: Thiazides should be used with caution in pregnant or lactating patients since this drug crosses the placental barrier and appears in breast milk and may result in fetal hyperbilirubinemia, thrombocytopenia, altered carbohydrate metabolism. It is therefore possible that the adverse reactions seen in the adult may occur in the newborn.

Ser-Ap-Es

Reserpine: The safety of rauwolfia preparations for use in pregnancy or lactation has not been established; therefore, this drug should be used in pregnant patients only when, in the judgment

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why Ser-Ap-Es®

reserpine 0.1 mg
hydralazine hydrochloride 25 mg
hydrochlorothiazide 15 mg

because only Ser-Ap-Es adds hydralazine to rauwolfia-thiazide



Ser-Ap-Es does more than control blood pressure in moderate hypertension—it's a therapeutic approach that considers the whole patient. And adding hydralazine to rauwolfia-thiazide

usually permits lower dosage of each component than if prescribed alone.

If there is slight renal impairment, hydralazine helps maintain or increase renal blood flow.

If the patient is stress reactive, the reserpine component should have a calming effect.

If the patient is uncooperative, Ser-Ap-Es may be a help because it contains all the medication many patients need in a single tablet.

Ser-Ap-Es should be used with caution in patients with advanced renal damage and cerebrovascular accidents. It should be discontinued at the first sign of mental depression.

why Esimil®

guanethidine monosulfate 10 mg
hydrochlorothiazide 25 mg

because Esimil offers the control-with-convenience so many hypertensives need



Esimil, an equally valuable yet different approach to moderate hypertension, makes sense for many patients because it anticipates future problems while helping to solve present ones.

If the patient is free of organ damage, Esimil may help keep her that way because it provides guanethidine, perhaps the most effective antihypertensive available. And effective lowering of blood pressure takes pressure off target organs.

If the patient forgets things, Esimil may make it easier to remember with once-a-day dosage, feasible in most cases.

Postural hypotension may occur with the use of Esimil, particularly while the drug is being introduced. Like all antihypertensives, Esimil should be given with caution in the presence of severe coronary insufficiency or recent myocardial infarction.

early, effective control of hypertension can save lives

polythylene, dioxepin) may decrease the hypotensive effect of guanethidine. Wait one week after discontinuing MAO inhibitors before starting guanethidine.

Peptic ulcers or other chronic disorders may be aggravated by a relative increase in parasympathetic tone. Periodic blood counts and liver function tests are advised during prolonged therapy.

Hydrochlorothiazide: Perform serum potassium, BUN, uric acid, and blood sugar tests prior to and at appropriate intervals during therapy. Watch patients for clinical signs of fluid or electrolyte imbalance (hypocalcemia, hypokalemia, hypomagnesemia, hypophosphatemia, hypochloremia, hyponatremia). Warning signs: dryness of mouth, thirst, weakness, or cramps; muscular fatigue, hypotension, tachycardia, GI disturbance. Serum and urine electrolyte determinations are particularly important when patient is vomiting excessively; receiving parenteral fluids; steroids, or ACTH therapy.

Transient elevations in plasma calcium may occur in patients taking thiazides, particularly in those with hyperparathyroidism. Pathological changes in the parathyroid gland have been reported in a few patients on prolonged thiazide therapy.

Hyperuricemia (or frank gout) may be precipitated in certain patients. Insulin requirements in diabetic patients may be increased, decreased, or unchanged. Latent diabetes may become manifest during thiazide therapy.

myocardial activity. (Signs of digitalis intoxication may be produced by formerly tolerated doses of digitalis.) Hypokalemia may be avoided or treated with supplemental potassium or potassium-rich foods. Supplemental potassium is indicated when serum potassium is 4 mEq/liter or less, or if patient is receiving digitalis.

Chloride deficit may be corrected with ammonium chloride (except in those with hepatic or renal disease) and largely prevented by a nonrigid salt intake. If dietary salt is unduly restricted, especially during hot weather, in severely edematous patients with congestive heart failure or renal disease, a low salt syndrome may complicate therapy with thiazides.

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If nitrogen retention indicates onset of renal impairment, discontinue drug.

Ser-Ap-Es
Reserpine: Use cautiously in patients with history of peptic ulcer, ulcerative colitis, or other GI disorders. May precipitate biliary colic in patients with gallstones.

Take special care with asthmatics and in hypertensives with renal insufficiency. Use cautiously with digitalis, quinidine, and guanethidine. Intraoperative hypotension has occurred in hypertensive patients receiving rauwolfia preparations, but withdrawal of reserpine does not assure that circulatory instability will not occur in such patients.

Hydralazine: Use cautiously in suspected coronary artery or other cardiovascular diseases, cerebral vascular accidents, and advanced renal damage. Postural hypotension may occur, and the pressor response to epinephrine may be reduced.

Peripheral neuritis, evidenced by paresthesias, numbness, and tingling, has been observed. Published evidence suggests an antipyridoxine effect and addition of pyridoxine to the regimen if symptoms develop. Blood dyscrasias, consisting of reduction in hemoglobin and red cell count, leukopenia, agranulocytosis, and purpura.

agranulocytosis, and purpura, have been reported rarely. If such abnormalities develop, discontinue therapy. Periodic blood counts are advised during prolonged therapy. **Hydrochlorothiazide:** See hydrochlorothiazide section above.

ADVERSE REACTIONS

Esimil

Guanethidine: Frequent reactions due to sympathetic blockade—dizziness; weakness; lassitude; syncope. Frequent reactions caused by unopposed parasympathetic activity—bradycardia; increase in bowel movements; diarrhea (which may be severe and require discontinuation of the drug). Other common reactions—fatigue; nausea; vomiting; nocturia; urinary incontinence; dermatitis; scalp hair loss; dry mouth; rise in BUN; plethys of the lids; blurring of vision; parotid tenderness; myalgia; muscle tremor; mental depression; chest pain (anginal); chest paresthesias; nasal congestion; weight gain; and asthma in susceptible individuals.

Hydrochlorothiazide: Gastrointestinal—anorexia; gastric irritation; nausea; vomiting; cramping; diarrhea; constipation; jaundice (intrahepatic cholestasis); pancreatitis; hyperglycemia; glycosuria. Central Nervous System—dizziness; vertigo; paresthesias; headache; xanthopsia. Dermatologic—hypersensitivity—purpura; photosensitivity; rash; urticaria; necrotizing angitis; Stevens-Johnson syndrome; and other hypersensitivity reactions. Hematologic—leukopenia; thrombocytopenia; agranulocytosis; aplastic anemia. Cardiovascular—orthostatic hypotension may occur and may be potentiated by alcohol, barbiturates, or narcotics. Miscellaneous—muscle spasm; weakness; restlessness. Whenever adverse reactions are moderate or severe, reduce dosage or withdraw therapy.

Ser-Ap-Es

Reserpine: Gastrointestinal—hypersecretion; nausea; vomiting; anorexia; diarrhea; aggravation of peptic ulcer or ulcerative colitis; increased intestinal motility. Cardiovascular—angina-like symptoms; arrhythmias (particularly when used concurrently with digitalis or quinidine); bradycardia. Central Nervous System—drowsiness; depression; nervousness; paradoxical anxiety; nightmares; rarely parkinsonian syndrome and other extrapyramidal tract involvement; CNS stimulation (manifested by dull sensorium, deafness, glaucoma, uveitis, and optic atrophy). Miscellaneous—nasal congestion; headache; dyspnea; syncope; epistaxis; purpura and other hematological reactions; impotence or decreased libido; dysuria; muscular rigidity; conjunctival injection; weight gain; breast engorgement; pseudotumor; gynecomastia; rarely water retention with edema in hypertensive patients.

Hydralazine: Common—headache; palpitations; anorexia; nausea; vomiting; diarrhea; tachycardia; angina pectoris. Less frequent—nasal congestion; flushing; lacrimation; conjunctivitis; peripheral neuritis, evidenced by paresthesias, numbness, and tingling; edema; urticaria; rash; muscle cramps; psychotic reactions characterized by depression, disorientation, or anxiety; hypersensitivity; constipation; difficulty in micturition; arthralgia; dyspnea; paralytic ileus; lymphadenitis; epiconjugival blood dyscrasias, consisting of reduction in hemoglobin and red cell count, leukopenia, agranulocytosis, and purpura. **Hydrochlorothiazide:** See hydrochlorothiazide section above.

DOSEAGE

Esimil
Optimal dosage must be determined for each individual. Note: 10 mg guanethidine monosulfate present in Esimil is equivalent to 8.4 mg guanethidine sulfate USP (normal).

Before starting therapy, consult complete product literature.

Ser-Ap-Es

One or 2 tablets t.i.d. To initiate therapy, 1 tablet t.i.d. is recommended. For maintenance, adjust dosage to lowest patient requirement. When necessary, more potent antihypertensives may be added gradually in dosages reduced by at least 50 percent.

HOW SUPPLIED

Esimil
Tablets (white, scored), each containing 10 mg guanethidine monosulfate and 25 mg hydrochlorothiazide; bottles of 100.

Ser-Ap-Es

Tablets (dark salmon pink, dry-coated), each containing 0.1 mg reserpine, 25 mg hydralazine hydrochloride, and 15 mg hydrochlorothiazide; bottles of 100 and 1000.

Consult complete literature of both products before prescribing.

CIBA Pharmaceutical Company
Division of CIBA-GEIGY Corporation
Summit, New Jersey 07901

C I B A

Ischemic Heart Illness: Metabolism Debated

Continued from page 1

Madrid was metabolism in the context of prevention of ischemic heart disease. What part does it play in postulated mechanisms of the disease?

Dr. BEAUMONT: Some things are already known, and have been known for a long time. First, cholesterol is in the lesion and accumulates there and elsewhere in the body. And Dr. Oliver has just pointed out that hypercholesterolemia is one of the most important correlations. Second, the cholesterol comes from the blood. Third, it possesses some peculiar biochemical properties. With this in mind, atherosclerosis could be a problem of the circulation and transport of the cholesterol molecule. In this view the structure of the arterial wall has an important role. The answer on prevention is perhaps not exactly there, but it provides a research framework—our approach at the arterial tissue level must be not only cellular but also tissular and metabolic, concentrating on the turnover of lipoproteins, glycoproteins, and polysaccharides in the arterial wall.

Dr. NIKKILA: All this is certainly a good research program for the future, but I would not agree that it represents things

we know. In fact, extremely little is known about the whole mechanism of lipids and glycoproteins in the arterial wall, in both the normal and the atheromatous state. We know that lipids come partly from the blood, but we do not know why they come and why they do not go away again.

Dr. OLIVER: I agree that the starting point is the sequestration of cholesterol in the arterial wall.

M.T.: But as a result of the discussion, what newer areas of metabolism research would you select for interest?

Dr. OLIVER: The whole field of adipose tissue fatty acid metabolism is only beginning to be explored in relation to atherosclerosis and ischemic heart disease. We must learn more about how lipoproteins are transported, how cholesterol and triglycerides are esterified, how fatty acids come out of the adipose tissue, and understand the kinetics and the regulatory mechanisms of fatty acid mobilization.

M.T.: Carbohydrate metabolism was also discussed. What is the relation between this and changes in lipid metabolism?

Dr. FEJFAR: If we accept that raised cholesterol is a biological manifestation of atherogenesis, then this is a fundamental question. We do not know if there is a

primary disturbance of the carbohydrate metabolism which is followed by changes in lipid metabolism. They may be parallel. But I would remind the gathering that 150 years ago the dogma was formulated that fat burns only in the carbohydrate fire.

Dr. BEAUMONT: It does not seem at present that atherogenesis depends on alterations in such basic mechanisms as Krebs cycle. Lipids are transported by macromolecules, and the arterial structure, the tissues, plays a role in this transportation. In the same way that cells have a role in the intermediary metabolism, Dr. Oliver singled out the adipose tissue, but I would prefer the smooth-muscle cell. It is involved wherever macromolecules containing cholesterol come to make a deposit.

Dr. JANUSIKIEWICZ: But should we not discuss the question of hypercholesterolemia without discussing the condition of the arterial wall?

Dr. NIKKILA: Yes, it is a metabolic disease irrespective of the condition of the arterial wall.

Dr. BEAUMONT: There are several levels involved—the tissue level with specificities of actual tissue, the physiological level involving the transport and circulation of the lipid-laden macromolecules;

Wednesday, December 27, 1972

there is the intermediary metabolism, which involves the cell's ability to consume and transform lipids and also other metabolites. We can take the disease of hypercholesterolemia, study it as such, and then replace it in the structural, physiological, circulatory, and cellular framework. We must seek also the hereditary factors, the inherited habits, and also why not?—the immunological factors.

Dr. FEJFAR: This question of hereditary and acquired factors was touched on at the meeting. You will remember that we saw slides of cholesterol levels in newborns in atherogenic communities. They indicated a considerable rise in cholesterol levels in the first six months of life.

M.T.: Were the children breast-fed?

Dr. OLIVER: I was asked not long ago to conduct an inquiry into the difference in serum lipids between breast-fed and bottle-fed children. There is no evidence of any significant difference.

M.T.: Dr. Fejfar, would you evaluate the meeting in terms of the battle by WHO against cardiovascular disease?

Dr. FEJFAR: No matter what action we take, it must be based on research. This means, as occurred here in Madrid, that the best people in the field must get together and indicate what should be done in research and try then to launch cooperative projects. This should lead to worldwide efforts.

Dr. OLIVER: But we heard a warning, with which I agree, by one of the observers at the meeting, Dr. Sackler, the publisher of Medical Tribune, that we should be wary of "big science," of the monolithic approach, the monolithic to end all trials and tests and whose conclusions we are then forced to accept. We certainly need more integration of our work, but not too much.

Dr. FEJFAR: Our policy should be to utilize what is available in each area, the local, on-the-spot resources. Everyone can contribute to the problem by being imaginative.

M.T.: Now can we also relate this to the physician, the general practitioner? What advice can he be given on treatment?

Dr. BEAUMONT: He can tell his patient not to smoke, to maintain a dietary regimen.

M.T.: Yes, but in terms of what has been discussed at this meeting, are there other recommendations that can be formulated?

Dr. FEJFAR: The individual physician still has to use what he has at hand when the patient comes to him.

Dr. OLIVER: The truth is that the patient who comes in total ignorance to the doctor for assistance is addressing himself to someone who is only one further stage removed from total ignorance. We are not in a position at the moment to control ischemic heart disease, and we should not pretend otherwise.

Dr. FEJFAR: That approach seems to me to err on the side of caution. The physician of 100 years ago had only 10 to 15 drugs or herbal preparations at his disposal, but he still managed to dispense good treatment, even if very often it was mainly based on the psychological approach. You know very well from preventive trials now going on that there is a tremendous placebo effect on the patient.

Dr. OLIVER: Yes, but you are only justified in giving advice to the patient if you are completely sure that the treatment is safe. I don't think this has been the case with some drugs—heparin is one, and the estrogens, with their high risk of thrombophlebitis, are another. Their use is not justified. If you are satisfied that the treatment you recommend is entirely safe, then you can give it, but on the clear understanding that it is doing no harm—and quite possibly doing no good.

M.T.: Can you specify the treatment that you would consider safe?

Dr. OLIVER: That is too general a question for me to answer readily. But I would point out that even if we are giving a treatment because it seems safe as a result of, say, 10 years of administration, we may still be wrong. Take, for example, polyunsaturated-fat diets. There is some evidence that these may be harmful, and may lead to increases in free cholesterol content in the arterial wall. We should never relax our surveillance.

M.T.: Thank you, gentlemen.

Infection Likely in Mat Burn, Main Wrestling-Injury Cause

Medical Tribune Report

PHILADELPHIA—Major causes of injury in intercollegiate wrestling include "friction injuries, falls, and twisting force and leverage," with other contributory causes including "defective equipment and overcrowding," the annual meeting of the American College of Sports Medicine was told here.



DR. SNOOK

Dr. George A. Snook, of the University of Massachusetts, Amherst, said that the most numerous injuries, though usually not severe, are friction injuries, or mat burns, brought about by the "nearly constant rubbing and scraping of the exposed parts of one's body against a relatively unyielding surface."

The biggest danger from such injuries, he said, comes from exposure to pathogenic organisms either from the mat or from opponents. He noted that the spread of herpes simplex from one wrestler to another and from one team to another in the course of practice or competition has been documented and that, in his own experience, a wrestler developed acute hematogenous osteomyelitis secondary to boils occurring from wrestling. It necessitated surgical debridement of a bone abscess.

Direct falls, common in wrestling, can cause fractures, dislocations, concussions and severe contusions, Dr. Snook observed. Even so, "one of the more surprising aspects of this sport," he said, "is that there are not more injuries due to direct falls"—which he attributes to the presence of better and more resilient wrestling mats and the rules against body slams.

Twisting Can Be Injurious

The most common cause of serious injury, according to Dr. Snook, is "the exertion of rotary force or of leverage against arms and legs." Twisting, in an attempt to bring an opponent to the mat or to turn him on his back, can result in a major injury to the joints, including torn cartilages and ligaments, and sprains and strains.

Prevention of wrestling injuries, he said, is helped by continuing enforcement of legislation against illegal body slams or potentially damaging holds, the use of properly fitting headgear and good wrestling mats, and the presence of a skilled referee, able "to recognize a potentially dangerous hold or an illegal hold and stop the action before a wrestler is hurt."

Dr. Snook recommended that mats be antiseptically scrubbed frequently and that the exposed skin of each competitor be examined before a match to minimize the spread of contagious skin diseases.

He advised the presence at matches of a physician who cares about wrestling, and who can distinguish between a potentially serious injury and one that should not prevent a team member from participating.

Fat Component of 5 Per Cent 'Minimum Wrestling Weight'

From University of Iowa

In interscholastic wrestling, "physicians and coaches should know the fat and fat-free components" of a team member's weight "before advising or recommending a lower weight," reported Charles M. Tipton, Ph.D., of the Exercise Physiology Laboratory at the University of Iowa.

He indicated that "a minimum wrestling weight is one that has a fat component of 5 per cent."

Even before the season starts, he noted, the average high school wrestling candidate has a lower fat percentage, 8-10 per cent, as determined indirectly by measuring skin folds, than the normal adolescent male, who is 12-15 per cent fat.

The dangers in "making weight" by

drastic dieting are obvious, Dr. Tipton commented, considering that a decrease in muscular strength and endurance can be expected in normal persons—who have a higher fat content to start out with—when 10 per cent of the initial weight is lost by food deprivation.

"Weight should be lost only at the expense of the fat storage components," he said. "By increasing carbohydrate percentage in the diet, the glycogen that is depleted during a workout can be restored, provided one day of rest and inactivity is followed."

He also made these recommendations: Each wrestler should consume a minimum caloric requirement, a diet consisting of 60 per cent carbohydrates, 15 per cent fat, and 25 per cent proteins. Fluids, which comprise most of the weight lost during practice, must be replaced. An energy balance sheet, including caloric intake and expenditures, should be calculated to guide weight loss.

Adequate and accurate records are important, for otherwise "without knowing the body components, the caloric intake, the minimum caloric requirement, or the approximate daily energy requirements of a wrestler, it is extremely difficult to provide meaningful advice on how to 'make weight' with a minimum of physiological consequences."



Holds such as these, left and below, may result in major joint injuries, including torn cartilages, ligaments, sprains, and strains.



Uncontrolled fall can cause fractures.

MEDICAL MEETING SCHEDULE

Foreign Meetings

- Jan. 23-26 ... Canadian Association of Pediatric Surgeons, Annual Meeting, Toronto
- Jan. 28 ... U.S. International Foundation for Studies in Reproduction, North American Conference on Fertility and Sterility, Acapulco, Mexico
- Feb. 5-7 ... Association of Otolaryngologists of India, Bombay
- Feb. 16-18 ... Winter Medical-Dental Assembly, Prague and Tatra Mts., Czechoslovakia, and Budapest
- Feb. 21-23 ... American Medical Association and Weismann Institute of Science Scientific Meeting, Tel Aviv
- Feb. 23-25 ... Central Surgical Association, Annual Meeting, Toronto
- Feb. 24-25 ... Belgian Society for Otorhinolaryngology, Brussels

- March 6-10 ... International Exhibition and Technical Meetings for Medical Electronics and Bioengineering, Basel, Switzerland
- March 8-14 ... Marquette-MCW Medical Alumni Association Clinical Conference, Montego Bay, Jamaica
- March 10-15 ... International Conference on Group Medicine, Rio de Janeiro
- March 11-24 ... German Medical Association Postgraduate Congress on Human Genetics and Practical Medicine, Davos, Switzerland
- March 12-24 ... German Medical Association Postgraduate Congress on Human Genetics and Practical Medicine, Badgastein, Austria
- March 25-29 ... International Symposium on Hepatology, Tel Aviv
- March 27-31 ... Cayman Medical Association, Anniversary Meeting, Colombo

The Mail

● To judge from the item from San Diego Physician sent us by Dr. M. Bradford of that city, male chauvinist pigs out that way seethe with anger:

"Dear Doctor:
"Several months ago, we wrote to you concerning our Vasectomy Clinic. We are happy to say that it has been a great success. Since its inception on May 11, the clinic has helped seventy indignant men obtain vasectomies.

"Anybody who would like to help out in the Vasectomy Clinic with their indignant clientele, should contact the Clinic Director, Dottie Reyburn, R.N. at 276-9740."

● Dr. Gordon M. Meade, of the University of Rochester School of Medicine and Dentistry, had depressing thoughts about the future of society after reading the conclusion of a letter to the editor of *American Medical News*:

"The fact that 7-9 per cent of U.S. physicians are women means that little girls and big girls get the message: Doctors are men. But the new message is: doctors are men and women and therefore are married to men and women."

It does sound polymorphous perverse.

● "The (penultimate) investigative aim of this test has arrived," writes Dr. Mortimer H. Kassel of East Paterson, N.J., sending us the following odd abstract from *Aerospace Medicine*:

"463—Problem of the Psychological Screening of Pilot Trainees—Study of Affective Stupor as a Reaction to the Colored Plates of Rorschach Test in a Group of Pilot Trainees (Sul problema della selezione psicologica degli allievi piloti—Studio sullo stupore affettivo di fronte alle tavole colorate del test di Rorschach in un gruppo di allievi piloti). F. SPARVIERI. *Rivista di Medicina Aeronautica e Spaziale*, vol. 34, Jan.-June 1971, p. 93-100. In Italian.

"Investigation, in a group of 52 pilot trainees, of the existence of statistically significant correlations between signs of neurosis, as shown by the experience of affective stupor during administration of the Rorschach test, and learning to fly. The results obtained were found to be negative, confirming the idea that the possible existence of neurotic conditions was not a serious obstacle to learning to fly in the subjects examined."

● Since the accompanying note said, "You don't have to print my name. My boss might wonder what I do besides sending in *Index Medicus* entries," here's the item with all identification clues removed:

"The agent causes a plant disease known as potatoes to grow long and spindly and, in addition, makes their taste unpleasant. In South Africa, the disease affects tomatoes."

● Margaret McCaffery, associate editor of *Canadian Family Physician*, discovered why *Index Medicus* entries can be confusing and shares her knowledge with us. Her source is *Filipino Family Physician*:

"References should be placed at the end of the article and should be numbered consecutively throughout the paper. References are to be listed in order by number from the text or alphabetically. They should conform to the style of the *Index Medicus*, i.e. author's last name, initials, periodical (abbreviated and punctuated according to *Index Medicus* usage), number, at last the first if not the past pages of article, and year of publication...."

● Dr. William B. Bean, of the University of Iowa and scattered editorial points, reports that a lecture by Dr. David Shepro was delivered at the university under the title: "Overview—In the Beginning There Were No Thrombocytes, Blood Vessels or Scientists... And So It Was and It Was Good."

The Iowa City *Press-Citizen* reported it as: "Overview: In the beginning there were no thrombocytes in the blood vessels of scientists, and so it was, and it was good."

Your first line of defense against topical infections

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BETADINE Ointment is decisively microbicidal. It kills all five major classes of pathogens: both gram-positive and gram-negative bacteria (including antibiotic-resistant strains), fungi, viruses, yeasts and protozoa. And its microbicidal activity is maintained in the presence of blood, pus, serum and necrotic tissue.

BETADINE Ointment (povidone-iodine) contains no hexachlorophene and is virtually nonirritating. It's not greasy or sticky, and easily washes off skin or natural fabrics. The application site can be bandaged.

Supplied in 1/2-oz. pouchettes, 1-oz. tubes and 16-oz. (1 lb.) jars.

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